QUARTERLY GROUNDWATER MONITORING REPORT

FOR

FORMER ANGELES CHEMICAL COMPANY FACILITY 8915 SORENSEN AVENUE SANTA FE SPRINGS, CALIFORNIA

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1.0) INTRODUCTION

Blakely Environmental Investigations, Inc. (BEII) was contracted by Greve Financial Services ((310) 753-5770) to perform quarterly groundwater monitoring at the former Angeles Chemical Company, Inc. facility located at 8915 Sorensen Avenue, Santa Fe Springs, California (See Figure 1, Site Location Map). The quarterly groundwater monitoring was requested by the Department of Toxics Substance Control (DTSC) correspondence dated September 18, 2001.

2.0) SITE LOCATION AND HISTORY

The site is approximately 1.8 acres in size and completely fenced. The site was bound to Sorensen Avenue on the east, Liquid Air Corporation to the northwest, Plastall Metals Corporation to the north, and a Southern Pacific Railroad easement and Mckesson Chemical Company to the south.

The property was owned by Southern Pacific Transportation Company and was not developed until 1976.

The Angeles Chemical Company has operated as a chemical repackaging facility since 1976. A total of thirty-four (34) underground storage tanks (USTs) existed beneath the site. Two (2) USTs, one gasoline and one diesel, and sixteen (16) chemical USTs were excavated and removed under the oversight of the Santa Fe Springs Fire Department. All 16 remaining chemical USTs were decommissioned in place and slurry filled.

In January 1990, SCS Engineers, Inc. (SCS) conducted a site investigation. SCS advanced eight borings from 5' below grade (bg) to 50' bg. Soil samples collected and analyzed identified benzene, 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), MEK, methyl isobutyl ketone (MIBK), toluene, 1,1,1-TCA, PCE, and xylenes at detectable concentrations.

In June 1990, SCS performed an additional site investigation at the site by advancing six additional borings advanced from 20.5' bg to 60' bg. A monitoring well (MW-1) was also installed. Soil sample analysis identified detectable concentrations of the above mentioned VOCs in addition to acetone and methylene chloride. Dissolved benzene, 1,1-DCA, 1,1-DCE, PCE, TCE, and trans-1,2-dichloroethene were detected in MW-1 above maximum contaminant levels.

Between 1993 and 1994, SCS performed further testing at the site. Soil samples were collected from nine borings. Five borings were converted to groundwater monitoring wells MW-2, MW-3, MW-4, MW-6, and MW-7 (See Figure 2, Well Location Map). The predominant compounds detected in soil were acetone, MEK, MIBK, PCE, toluene, 1,1,1-TCA, TCE, and xylenes. Groundwater sample collection performed in

February 1994 by SCS identified the following using EPA method 624 (laboratory results included in Remedial Investigation Report dated August 1994 by SCS):

[illegible]	194	<100	63	111	795	46
1,1-DCA	649	1,130	85	1,410	2,260	2,130
1,2-DCA	<100	<100	<50	<100	1,140	31
1,1-DCE	2,210	2,460	2,800	806	1,240	151
[illegible]	333	1,720	115	1,180	1,910	45
Methylene Chloride	1,220	2,980	6,530	4,760	21,400	<50
PCE	662	2,150	5,970	3,520	2,130	134
Toluene	560	7,390	579	12,700	13,500	398
1,1,1-TCA	9,370	3,470	444	36,200	124,000	90
TCE	7,160	3,040	1,730	14,300	1,320	45
Xylenes	1,750	7,750	1,014	4,362	4,150	136
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L

In 1996, SCS performed separate soil vapor extraction pilot testing beneath the site at approximately 10' bg and 22' bg. Laboratory analysis identified maximum soil vapor gas concentrations as 1,1,1-TCA (30,300 ppmV) with detectable concentrations of 1,1-DCE, TCE, methylene chloride, toluene, PCE and xylenes. The maximum radius of influence from the various extraction units used were measured as 35 feet at 10' bg and 80 feet at 22' bg.

In November 1997, SCS performed a soil vapor survey at the site. Soil vapor samples were collected at twenty-three locations at 5' bg. In addition, soil vapor samples were collected at 15' bg in five of the twelve sampling points. The soil vapor survey identified maximum VOC contaminants near the railroad tracks on site, the location where a rail tanker reportedly had an accidental release.

In July 2000, BEII contracted BLC Surveying, Inc. to perform a site survey. Well locations were recorded using the California Plane coordinate systems. A copy of the survey is on file with the DTSC.

In September 2000, Blaine Tech Services, Inc. gauged the six on-site monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-6, and MW-7) under the supervision of BEII. Free product (FP) was identified in monitoring well MW-4 at 0.21-feet in thickness. Approximately 0.5 liters of FP were removed from the well and placed in a sealed 55-gallon drum.

BEII performed a soil vapor gas survey at the site from November 27 to December 1, 2000. A total of 36 soil vapor sample points, labeled SV1 through SV36, were selected by BEII and approved by the DTSC for analysis. Two discrete soil vapor samples were collected from each soil vapor sample point, one at 8' bg and one at 20' bg. SV1 was an exception since the first soil vapor sample was collected at 10' bg instead of

8' bg (See Figure 3 for BEII Soil Vapor Sample Locations). Based on the soil vapor sample results, BEII identified relatively low level concentrations of VOCs in the silty clay soils at 8' bg. However, the concentrations of VOCs are significantly higher in the sandy soils at 20' bg in OU-1. Results were submitted to the DTSC by BEII in a Report of Findings dated January 10, 2001 with laboratory reports (BEII Report of Findings dated January 10, 2001).

On November 30, 2000, Blaine Tech Services, Inc. (Blaine) was contracted to perform groundwater sampling at the site. Groundwater monitoring wells MW-4 and MW-6 identified were not sampled due to insufficient water and presence of free product. These wells were installed to monitor a perched groundwater body to the north. Free product was identified in MW-1 during sample collection, upon completion of well purging. The potentiometric groundwater level was above the well screen. Groundwater purging lowered the potentiometric level below the screened interval, allowing free product to enter. Groundwater sample analysis identified thirteen constituents of concern (COCs) in the dissolved phase as VOCs only. Laboratory analysis of metals and SVOCs identified concentrations below allowable levels for those constituents. Results were submitted by BEII to the DTSC in a Report of Findings dated January 10, 2001 with laboratory reports.

3.0) REGIONAL GEOLOGY/HYDROGEOLOGY

The site is located near the northern boundary of the Santa Fe Springs Plain within the Los Angeles Coastal Plain at an elevation of approximately 150 feet above mean sea level. Surficial sediments consist of fluvial deposits composed of inter-bedded gravel, sand, silt, and clay. Available data from California Water Resources Bulletin No. 104 (June 1961) indicate that the surficial sediments may be Holocene and/or part of the upper Pleistocene Lakewood Formation, which ranges from 40 to 50 feet thick beneath the site. The Lakewood Formation has lateral lithologic changes with discontinuous permeable zones that vary in particle size. Stratified deposits of sand, silty sand, silt, and fine gravel comprising the upper portion of the lower Pleistocene San Pedro Formation underlies the Lakewood Formation.

The site lies within the Central Basin Pressure area, a division of the Central Ground Water Basin, which extends over most of the Coastal Plain. The Gasper aquifer, a part of the basal coarse unit of Holocene deposits, is found within old channels of the San Gabriel and other rivers. The Gasper aquifer may be 40-feet in thickness, with its base at a depth of about 80 to 100-feet bg. The underlying Gage aquifer is found within the upper Pleistocene Lakewood Formation. The Hollydale aquifer is the uppermost regional aquifer in the San Pedro Formation. Bulletin 104 indicates that this aquifer averages approximately 30-feet in thickness in this area, with its top at a depth of about 70 feet bg. The major water producing aquifers in the region are the Lynwood aquifer located approximately 200-feet bg, the Silverado aquifer located at approximately 275-feet bg, and the Sunnyside aquifer located at approximately 600-feet bg.

4.0) SITE GEOLOGY/HYDROGEOLOGY

SCS identified silty clays with some minor amounts of silt and sand in the shallow subsurface from surface grade to approximately 15' bg. Below the silty clay, poorly sorted coarse-grained sand and gravel from 15' bg to 26' bg. A less permeable silty clay layer was identified by SCS between 35' and 50' bg, which contains stringers of fine sand and silt that is part of the Gaspur/Hollydale aquifer.

Two aquifers were identified by SCS during subsurface investigations performed at the site. A perched aquifer was encountered at approximately 23' bg and the Gaspur/Hollydale aquifer was encountered at 20' to 35' bg by SCS. The groundwater gradient flows to the southwest as identified by SCS. In October 2001, the groundwater was identified between 26.35' bg to 39.19' bg beneath the site with a flow to the south/southwest (See Figure 4, Groundwater Gradient Map). Only monitoring wells installed in the Gasper/Hollydale aquifer (MW-1, MW-2, MW-3, and MW-7) were used to calculate the groundwater gradient.

5.0) GROUNDWATER MONITORING PROTOCOL

The purpose of the proposed groundwater monitoring was to provide data regarding the piezometric surface, water quality, and the presence of free product (FP), if any on a quarterly basis to the DTSC. Groundwater monitoring consisted of such activities as water level measurement, well sounding for detection of FP, collection of groundwater samples, field analysis, laboratory analysis, and reporting. The proposed work was performed as follows:

The depth to groundwater was measured in each well using a decontaminated water level indicator capable of measuring to with 1/100th of a foot. Prior to and following collection of measurements from each well, the portions of the water level indicator entering groundwater were decontaminated using a 3-stage decontamination consisting of a potable wash with water containing Liquinox soap followed by a double purified water rinse. Wells were monitored in the order of least contaminated to the most contaminated based on past analysis. For the Angeles Chemical Co. wells, the following order of wells was followed: MW-7, MW-3, MW-2, MW-1, MW-4, and MW-6.

The well box and casing were opened carefully to minimize the amount of debris or dirt falling into the open casing. Once the well cap and J-Plug were removed, the water level indicator was lowered into the well until a consistent tone is registered. Several soundings were repeated to verify the measured depth to groundwater. The depth of groundwater was measured from a reference point marked on the lip of each well casing. A licensed surveyor has surveyed the elevation of each reference point. The result was recorded on the field sampling log for each well. Other relevant information such as physical condition of the well, presence of hydrocarbon odors, etc. was also recorded as appropriate on the field sampling log.

The well sounder used for this project will also be equipped to measure FP layers thicker than 0.1 inches. FP was indicated as light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPL).

Groundwater sampling was conducted immediately following the collection of groundwater depth measurements from all monitoring wells. Free product present within any well was sampled and characterized upon completion of groundwater sampling to minimize cross contamination.

Groundwater samples were analyzed for the following constituents:

- Volatile organic compounds (VOCs) using EPA Method 8260B to include all Tentatively Identified Compounds (TICs).
- Title 22 (CAM 17 heavy metals) metals using EPA Method 6010 and 7471 for mercury.

5.1) Well Purging and Measurement of Field Parameters

Wells were purged in the following order MW-7, MW-3, MW-2, and MW-1 to minimize the potential for cross contamination. The wells were purged by Blaine Tech Services, Inc (Blaine) and sampled by BEII on October 30, 2001 in the presence of Mr. Ryan Kinsella and Mr. Sanford Britt of the DTSC. The purge protocol was presented in the Field Sampling Plan as Appendix A in the Groundwater Monitoring Work Plan dated October 23, 2001.

Prior to purging, casing volumes was calculated based on total well depth, standing water level, and casing diameter. One casing volume was calculated as:

$$V = \pi(d/2)^2 h \times 7.48$$

where:

V is the volume of one well casing of water (in gallons, 1 ft^3 = 7.48 gallon);
d is the inner diameter of the well casing (in feet); and
h is the total depth of water in the well - the depth to water level (in feet).

A minimum of three casing volumes of water was purged unless wells were de-watered, as in the case of monitoring wells MW-3 and MW-2. Only 17-gallons were purged from MW-3 and MW-2 because the wells observed a slow recharge. Water was collected into a measured bucket to record the purge volume. All purged groundwater was containerized in 55-gallon hazardous waste drum for disposal at a later date.

After each well casing volume was purged; water temperature, pH,

specific conductance (EC), and turbidity were measured using field test meters and the measurements were recorded on Well Monitoring Data Sheets (See Appendix A). Samples were collected after these parameters have stabilized; indicating that representative formation water has entered the well. The temperature, pH, and specific conductance should not vary by more than 10 percent from reading to reading. Turbidity should be less then 5 NTUs, however, the purging process stirred up silty material in each well which made the turbidity measurements of 5 NTUs unattainable. Notations of water quality including color, clarity, odors, sediment, etc. were also noted in the data sheets.

Groundwater samples were collected after water levels recharged to 80 percent of the static water column, with the exception of MW-3. The groundwater level in MW-3 recharged to only 60 percent when the sample was collected 3-hours after purging.

All field meters were calibrated according to manufacturers' guidelines and specifications before and after each day of field use. Field meter probes were decontaminated before and after use at each well. The pH, conductivity, and temperature were measured with a Myron-L Ultra Meter and turbidity was measured with a HF Scientific DRT-15C meter. The calibration standards used for pH were 4 and 7 with expiration dates of December 2001. Conductivity was calibrated to a 3900 µs standard with an expiration date of January 2002. A 0.02 NTU standard was used to calibrate the turbidity with an expiration date of January 2002.

5.2) Well Sampling

Groundwater and FP samples were collected by lowering a disposable bailer into each well. Groundwater and FP were transferred from the bailer directly into the appropriate sample containers with preservative, if required, chilled, and processed for shipment to the laboratory. When transferring samples, care was taken not to touch the bailer-emptying device to the sample containers. Water and FP samples were transported to Southland Technical Services, Inc., a certified laboratory by the California Department of Health Services (Cert. #1986) to perform the requested analysis.

Groundwater samples were collected from monitoring wells MW-7, MW-3, MW-2, and MW-1 only. Monitoring wells MW-4 and MW-6 identified FP as LNAPL at a thickness of 0.3' and 0.5', respectively. FP was collected in a 40 ml VOA for laboratory analysis from only MW-6. Monitoring well MW-4 contained insufficient liquids to obtain a FP sample. FP collected from MW-6 was analyzed for Volatile organic compounds (VOCs) using EPA Method 8260B to include all Tentatively Identified Compounds (TICs). The FP sample was collected after all groundwater samples were collected to minimize cross contamination.

Vials for VOC analysis were filled first to minimize aeration of groundwater collected in the bailer. The laboratory provided vials containing sufficient HCl preservative to lower the pH to less than 2. The vials were filled directly from the bottom-emptying device. The vial was capped with a cap containing a Teflon septum. The vial was inverted and tapped to check for bubbles to insure zero headspace.

Groundwater sample collection for dissolved metals followed. The laboratory provided 500-mL poly containers containing sufficient HNO_3 preservative. The containers were filled directly from the bottom-emptying device.

New nitrile gloves were worn during by sampling personnel for each well to prevent cross contamination of the samples. A solvent free label was affixed to each sample container/vial denoting the well identification, date and time of sampling, and an identifying code to distinguish each individual bottle.

5.3) Sample Handling

VOA vials and 500-mL poly containers, including laboratory trip blanks and rinse blanks, were placed inside of one new Ziplock bag per well and stored in a cooler chilled to approximately 4°C with bagged ice. Water and FP samples were logged on the chain-of-custody forms immediately following sampling of each well to insure proper tracking through analysis to the laboratory.

5.4) Waste Management

FP, purged groundwater, and decontamination water were stored in sealed 55-gallon drums for a period not exceeding 90 days. Stored wastes will be profiled for hazardous constituents and characterized as Non-Hazardous, California Hazardous, or RCRA Hazardous, as appropriate. Any transportation of waste will be under appropriate manifest.

6.0) FP AND GROUNDWATER SAMPLE RESULTS

Laboratory analysis of FP collected from perched water monitoring well MW-6 identified 1,1,1 TCA at 28,100 mg/L (2.8%), 1,2,4-Trimethylbenzene at 22,100 mg/L (2.2%), Xylenes at 10,370 mg/L (1.0%), Toluene at 9,010 mg/L (0.9%), 1,3,5-Trimethylbenzene at 5,400 mg/L (0.5%), and Ethylbenzene at 4,320 mg/L (0.4%). Other VOCs were detected in the free product at concentrations less than 2,000 mg/L or 0.2% and are listed in Table 1. Laboratory groundwater and FP analysis reports are included as Appendix B.

Groundwater sample results from the Gasper/Hollydale aquifer identified relatively low VOC concentrations to the north end of the site and relatively high VOC concentrations to the south along the McKesson property (See Table 1).

Dissolved BTEX concentrations were identified as 1,438 µg/L in MW-7 located along the northern side of the property. On the southern side of the property, dissolved BTEX concentrations ranged from 10,530 µg/L to 328 µg/L in monitoring wells MW-1 through MW-3 (See Figure 5, Estimated Dissolved BTEX Plume). Most of the dissolved BTEX concentrations from all Gasper/Hollydale monitoring wells consisted of toluene and xylene as 84-89% of the total BTEX, with the exception of MW-2 which identified mostly benzene and ethylbenzene as 92% of the total BTEX. However, monitoring well MW-2 contained the least amount of total dissolved BTEX at 328 µg/L.

Dissolved PCE was identified in monitoring wells MW-3 and MW-7 exclusively. Monitoring well MW-3 identified dissolved PCE at 130 µg/L and well MW-7 identified dissolved PCE at 100 µg/L (See Figure 6 for Estimated Dissolved PCE Plume). Dissolved TCE was identified exclusively in MW-3 at 100 µg/L (See Figure 7 for Estimated Dissolved TCE Plume). Again, dissolved VOC concentrations were detected at higher levels along the southern side of the property.

Concentrations of chlorinated VOC daughter products also show a trend of relatively high dissolved concentrations along the southern side of the property. 1,1 DCA is a daughter product from reductive dehalogenation of 1,1,1-TCA and from carbon-carbon double bond reduction of 1,1 DCE, another daughter product. Dissolved 1,1 DCA was identified at a concentration of 2,670 µg/L in MW-7, which is located along the northern side of the property. Concentrations of dissolved 1,1 DCA along the southern side of the property were identified as 8,190 µg/L in MW-1, 1,500 µg/L in MW-2, and 1,030 µg/L in MW-3 (See Figure 8 for Estimated Dissolved 1,1 DCA Plume).

Dissolved 1,1 DCE, a daughter product of the dehydrohalogenation of 1,1,1 TCA and reductive dehalogenation of TCE, was also identified at a concentration of 355 µg/L in MW-7. Along the southern side of the property, dissolved 1,1 DCE was identified in wells MW-1 through MW-3 at concentrations of 4,090 µg/L to 1,120 µg/L (See Figure 9 for Estimated Dissolved 1,1 DCE Plume). Concentrations of dissolved 1,1 DCE were 3 to 11 times greater along the southern side of the property compared to the northern side.

Cis-1,2 DCE is also a daughter product of the dehydrohalogenation of 1,1,1 TCA and reductive dehalogenation of TCE. Concentrations of dissolved cis-1,2 DCE were identified along the north side of the property at 194 µg/L. The southern side of the property identified dissolved cis-1,2 DCE from 10,300 µg/L to 7,000 µg/L in monitoring wells MW-1 through MW-3 (See Figure 10 for Estimated Dissolved cis-1,2 DCE Plume). Dissolved cis-1,2 DCE concentrations were 36 to 53 times greater along the southern side of the property compared to the northern side.

Vinyl chloride (VC) is a by product from the dehydrohalogenation and reductive dehalogenation of the chlorinated VOC daughter products mentioned above. Dissolved VC concentrations were identified along the southern side of the property in monitoring wells MW-1 and MW-2 at 1,350 µg/L and 75 µg/L, respectively (See Figure 11 for Estimated Dissolved VC Plume). Concentrations of dissolved VC were identified along the northern side of the property in MW-7 at 188 µg/L. Again, dissolved VOC concentrations were detected at higher levels along the southern side of the property.

Groundwater samples were filtered by the laboratory and analyzed for dissolved metals (See Table 2 for Dissolved Metal Results). Arsenic was the only metal that was identified above the maximum contaminant level (MCL) of 50 µg/L. Arsenic was identified as 61 µg/L in MW-2 and 71 µg/L in MW-7.

7.0) CONCLUSIONS

Based on the significant increase in concentrations of dissolved VOCs confined to the south side of the site, BEII concludes that the probable source of the majority of groundwater VOC impact is located south of the former Angeles Chemical Co. property. It is concluded that the dissolved groundwater plume has migrated onto the Angeles site in the presently dry shallow permeable soil.

This permeable soil was identified as saturated with water and DNAPLs during from 1975 until 1986 when McKesson dumped DNAPL /wastewater mix into the unlined ditch adjoining the south side of the former Angeles Chemical property. It was identified by the USEPA in 1986 that 1,500 gallons per day of wastewater with approximately 1.5% DNAPL were continuously discharged in these areas, resulting in saturation of the shallow permeable zone from 1975 until 1986.

It is further concluded that this large source release into groundwater created a hydraulic pressure head driving the DNAPL/water from surface through the permeable soil to the low point at MW-6, approximately 30' bg, which also provided communication with the Gasper/Hollydale Aquifer now being tested (See Figure 12).

It is further concluded that the DNAPL saturated soil continues to act as a source beneath the unlined ditch and bermed discharge area of McKesson and has diffused as a concentration gradient from high levels at the source to low levels away from the source with residual DNAPL, LNAPL and water pooling at the lowest point of the permeable soil zone identified by monitoring well MW-6. Saturated flow of solvents identified in the shallow permeable soil of the McKesson site from 15' bg to 30' bg and sloping from the unlined ditch onto the former Angeles Chemical property has impacted the lowest measured point of this continuous permeable layer, as identified by MW-6. Water and free phase product remain exclusively at this low point in the permeable zone to the present 15 years after the massive McKesson dumping was discontinued in 1986. Dehydration of the permeable zone occurred in the years after abatement of the daily discharge of DNAPL solvents and water onto the Angeles property, with residual

DNAPL, LNAPL and water remaining in the sump like deeper configuration identified by MW 6 on the Angeles property.

Such large and long term VOC releases, which have been documented at the McKesson property (See Appendix C), can easily diffuse contaminants upgradient from the source for extended periods of time and result in partitioning in all phases. Since contaminants spread away from a source by diffusion and dissolved VOC concentration remain approximately 5 times higher along the southern side of the property than the northern side, it is concluded that the source of dissolved VOCs is located south of the property. This conclusion will be further clarified as recent groundwater sample results from the McKesson property are identified, possibly with higher dissolved phase concentrations of VOCs.

Furthermore, groundwater test data supports that intrinsic reduction of the DNAPLs flowing from the McKesson site through the permeable shallow soil is most probably occurring effectively due to the stripping of the DNAPL from the soil and water by the LNAPL petroleum constituents, e.g., xylene, toluene. No parent chlorinated compounds such as 1,1,1 TCA, PCE, and TCE were identified in concentrations greater than 100 ppb in the north side monitoring well MW-7 and greater than 130 ppb in the south side monitoring well MW-3. However, the dissolved reduction products 1,1 DCA, 1,1 DCE and cis-1,2 DCE were identified in the Gasper/Hollydale Aquifer on the south side of the former Angeles Chemical Company property at concentrations up to 10,300 ppb and up to 2,670 ppb on the north side (See Table 1).

It is further concluded that co-metabolic reduction is occurring between the LNAPL/DNAPL co-solvents since significant concentrations of 1,1,1 TCA, for example, were identified in the LNAPL collected from MW-6 at up to 2.8% of the free product mixture. However, no significant mass of 1,1,1 TCA was identified in the shallow soil in MW-6 and no evidence of migration of these parent compounds was identified to the Gasper/Hollydale Aquifer in MW-7. It is concluded, therefore, that the stripping by preferential partitioning into the more compatible LNAPL has removed the parent products from the previously saturated shallow soil/groundwater permeable zone from 15' bg to 30' bg. Identification of daughter products, exclusively, in the groundwater at adjacent depth to and in the groundwater down-gradient of MW-6 supports that the parent products are partitioning into the LNAPL which are co-soluble at a much greater rate than water.

8.0) RECOMMENDATIONS

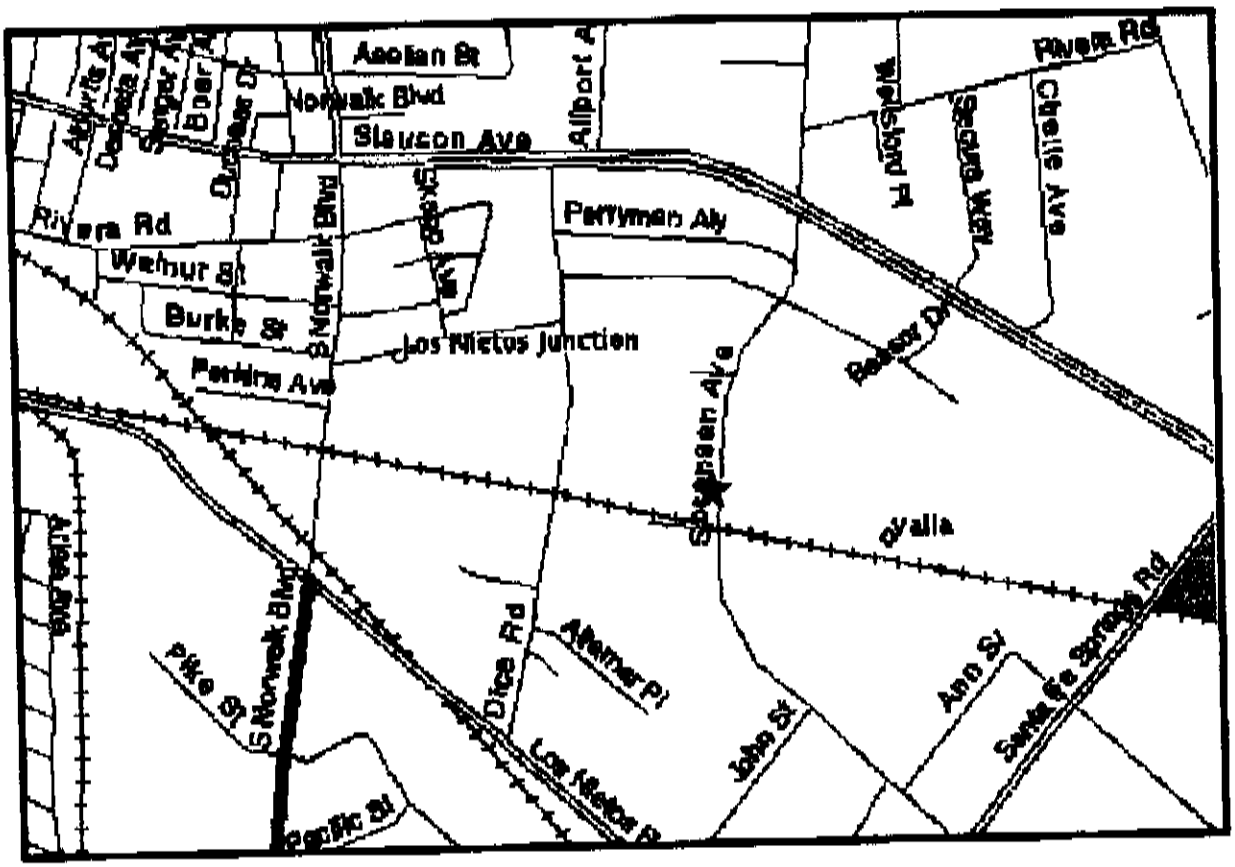
BEII recommends that quarterly groundwater monitoring for VOCs and dissolved

metals be continued at the former Angeles Chemical Co. property.

BEII further recommends that the probable south side source be monitored in dissolved, vapor and free phase near the two property boundaries.

BEII also recommends that a feasibility study of enhanced co-metabolism of the parent VOC products be performed based upon the preliminary data indicating completed first stage co-metabolic reduction of the parent VOCs. Details of the study will be provided in a work plan to be submitted to the DTSC on an agreed date.

FIGURES



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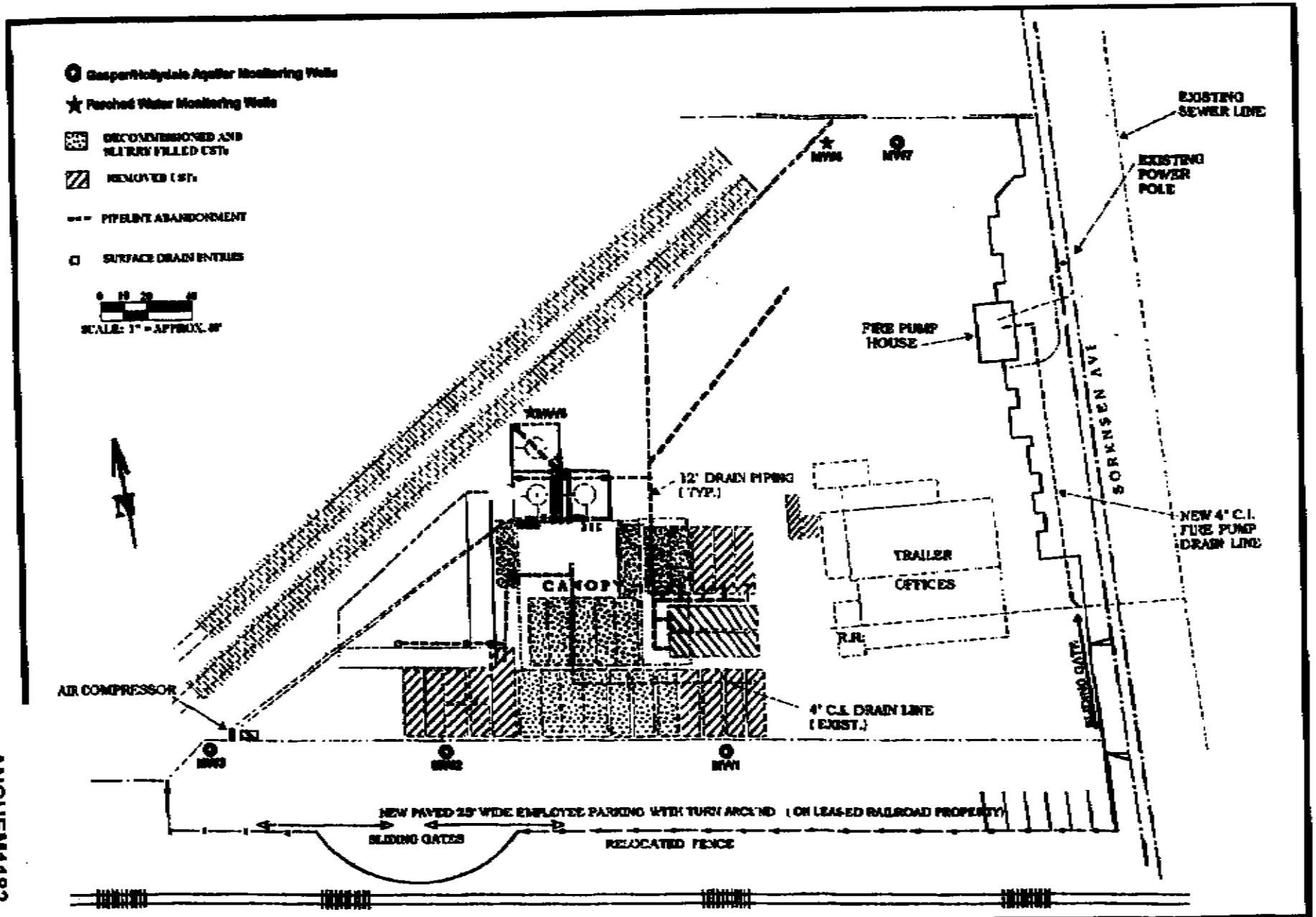
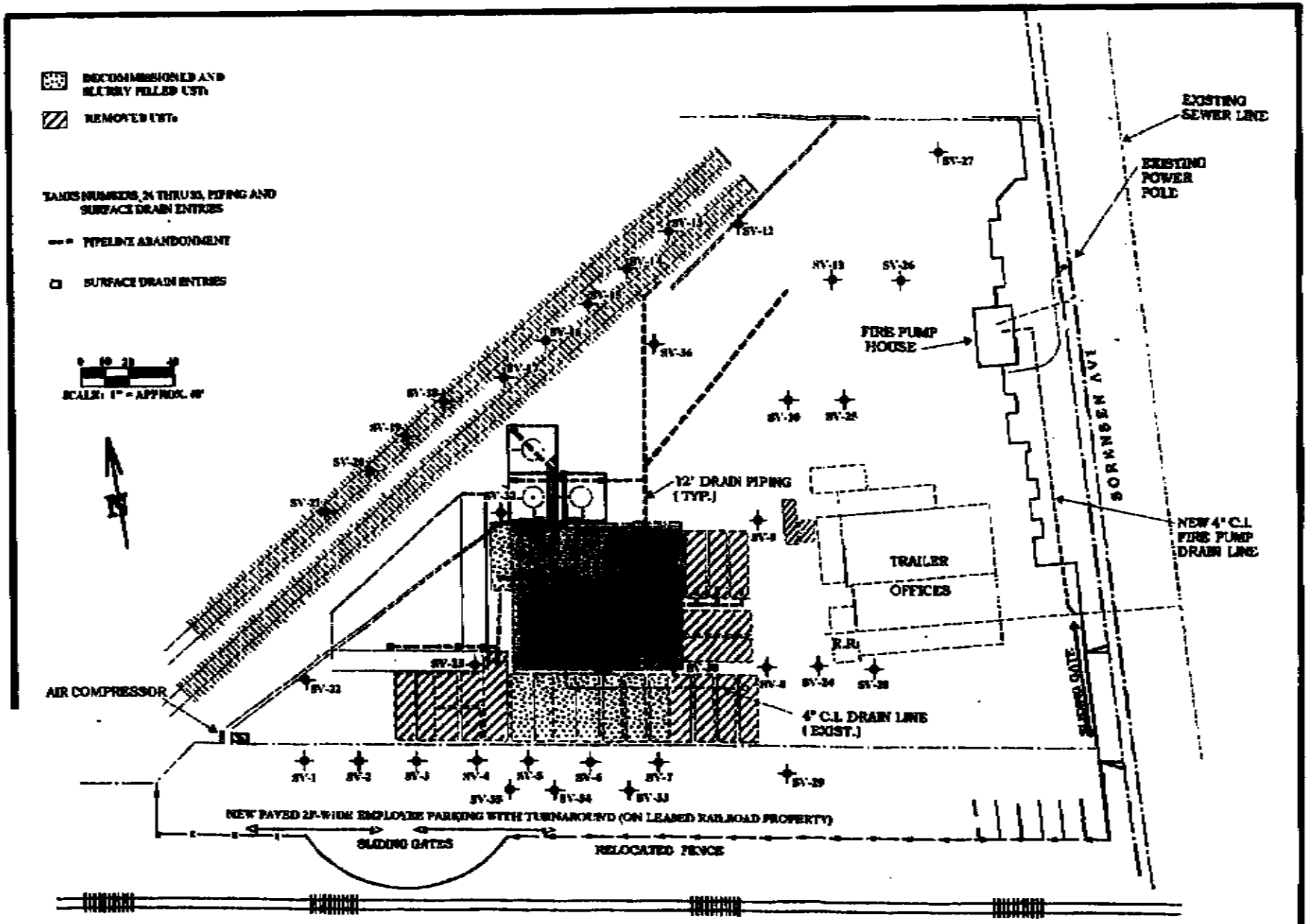
Blakely Environmental Investigations, Inc. 9605 Arrow Route, Suite "T" Rancho Cucamonga, CA 91730	**Site Location** **Former Angeles Chemical Company** **8915 Sorensen Avenue** **Santa Fe Springs, CA**	**FIGURE 1**

ANCHEM1181



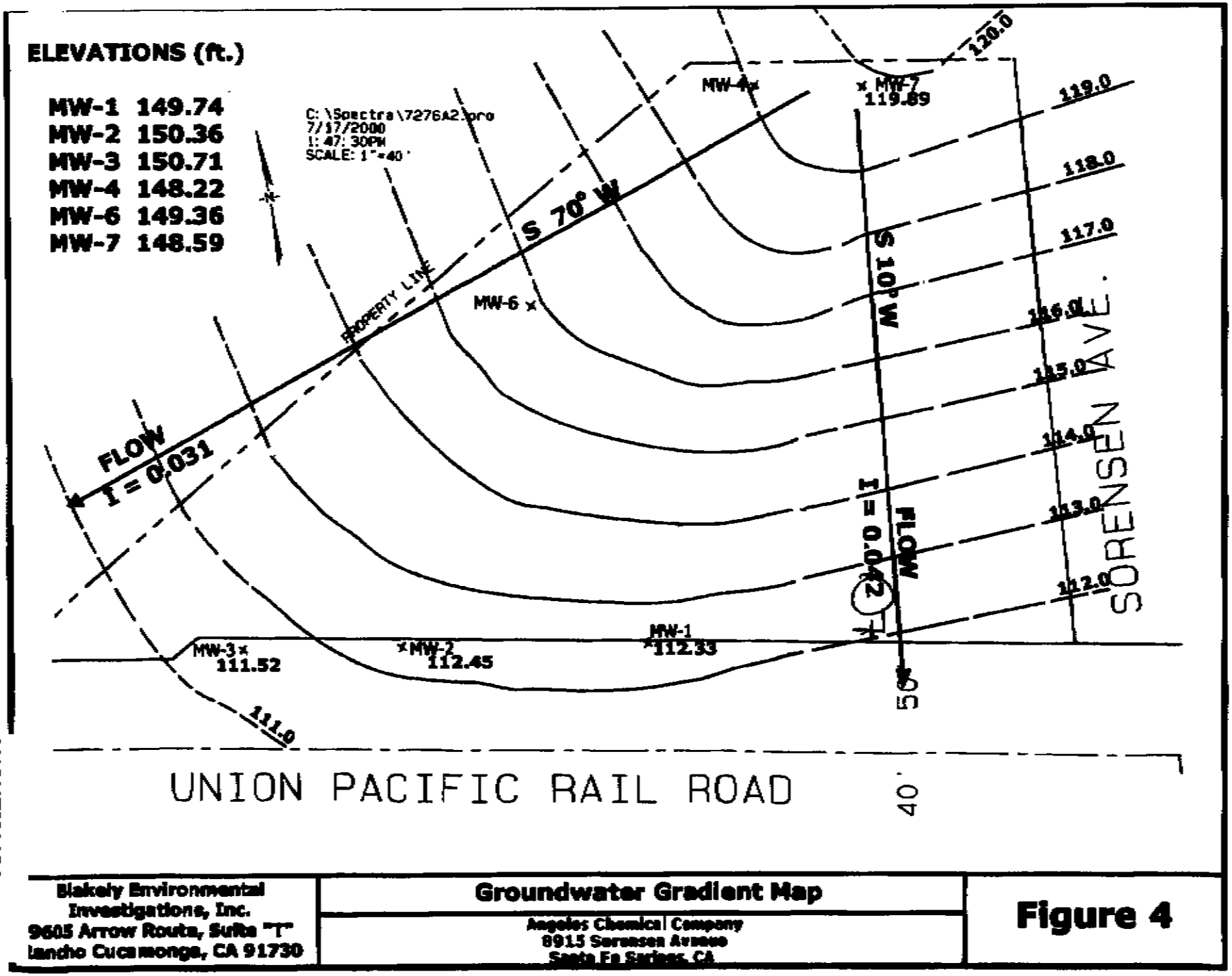
Blaney Environmental Investigations, Inc. 9605 Arrow Route, Suite "I" Rancho Cucamonga, CA 91730	**SITE LAYOUT MAP** Angeles Chemical Company 8915 Sorensen Avenue Santa Fe Springs, CA	**Figure 2**

ANCHEM1182



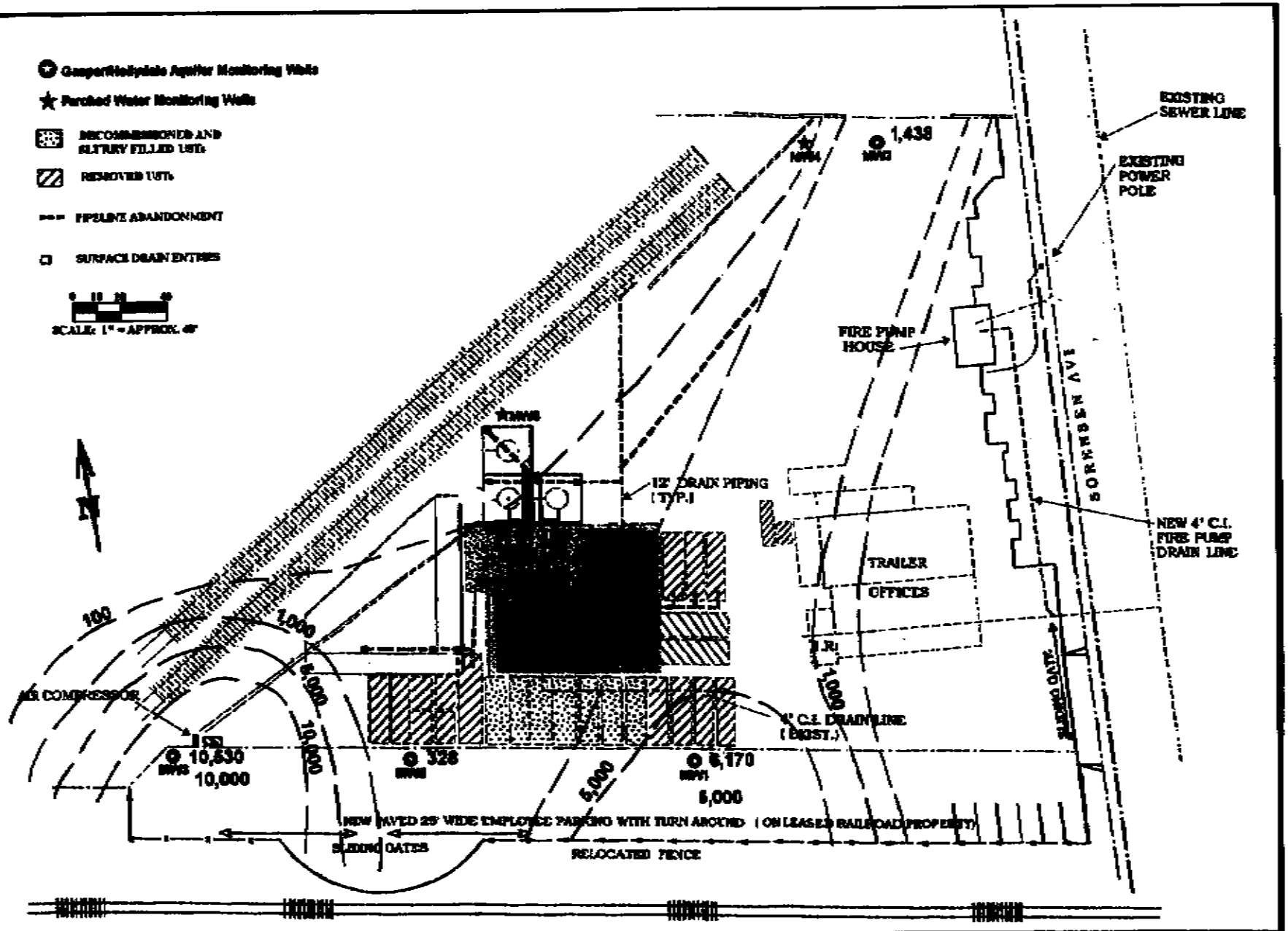
Blakely Environmental Investigations, Inc. 9805 Arrow Route, Ste. T Rancho Cucamonga, CA 91730	**BEII SOIL VAPOR SAMPLE LOCATIONS** Angeles Chemical Company 8915 Sorenson Avenue Santa Fe Springs, CA	**FIGURE 3**

ANCHEM1183



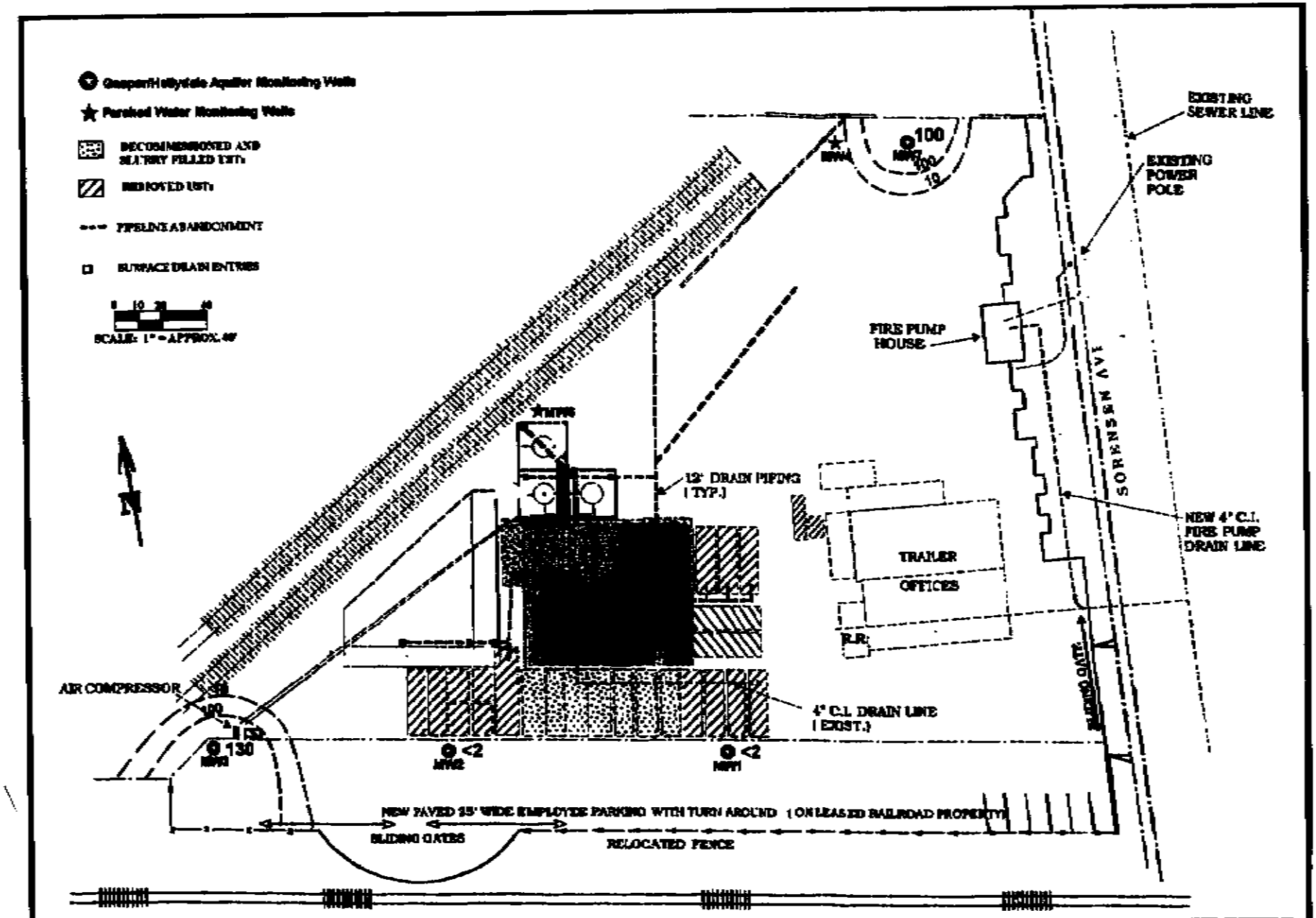
Blakely Environmental Investigations, Inc. 9605 Arrow Route, Suite "I" Rancho Cucamonga, CA 91730	**Groundwater Gradient Map** Angeles Chemical Company 8915 Sorensen Avenue Santa Fe Springs, CA	**Figure 4**

ANCHEM1184



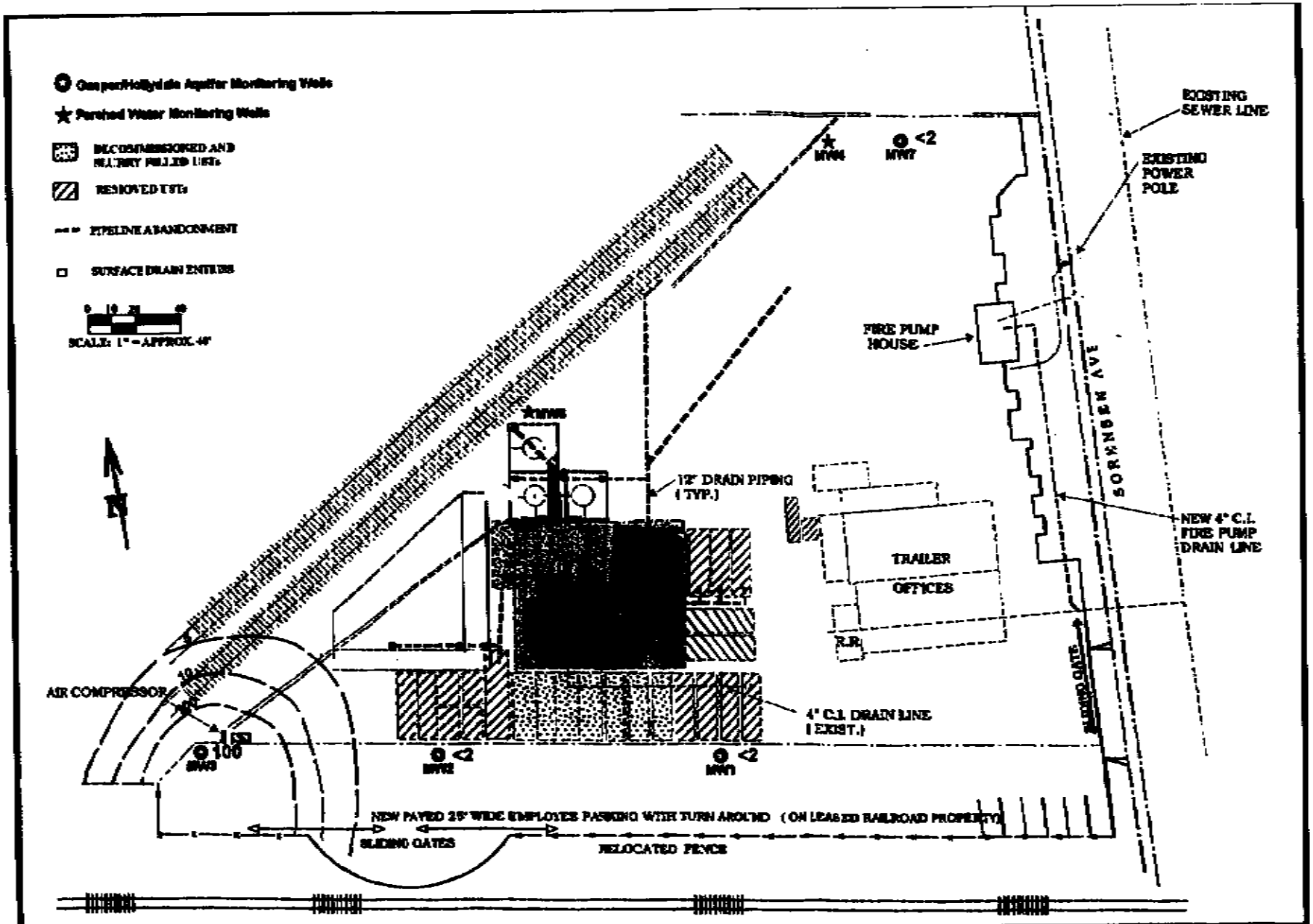
Blakely Environmental Investigations, Inc. 9605 Arrow Route, Suite "I" Rancho Cucamonga, CA 91730	Estimated Dissolved BTEX Plume in Gasper/Hollydale Aquifer (µg/L) Angeles Chemical Company 8915 Sorensen Avenue Santa Fe Springs, CA	Figure 5

ANCHEM1185



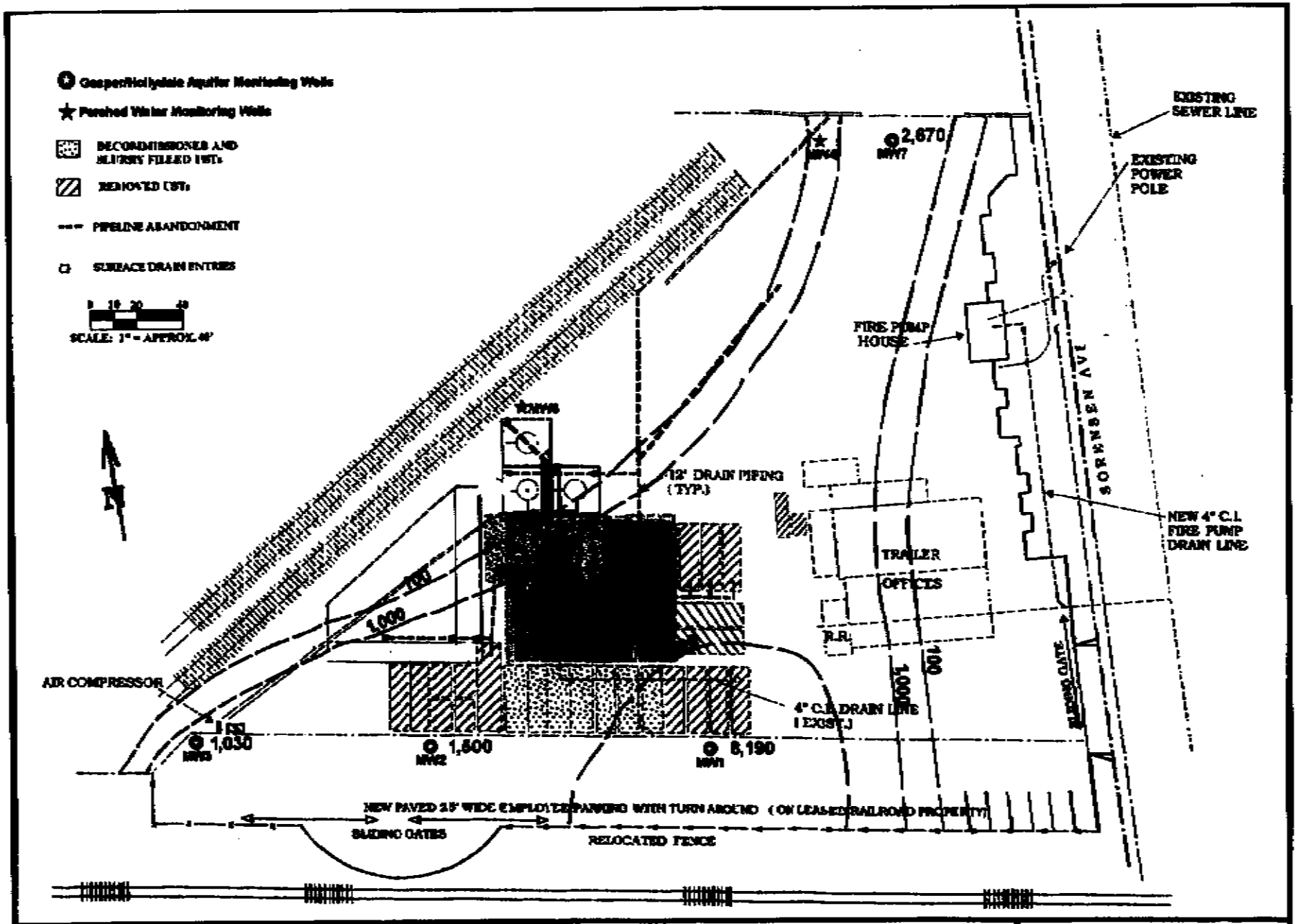
Blaisdy Environmental Investigations, Inc. 9685 Arrow Route, Suite "F" Rancho Cucamonga, CA 91730	Estimated Dissolved PCE Plume in Gaspar/Hollydale Aquifer (µg/L) Angeles Chemical Company 8915 Sorensen Avenue Santa Fe Springs, CA	Figure 6

ANCHEM1186



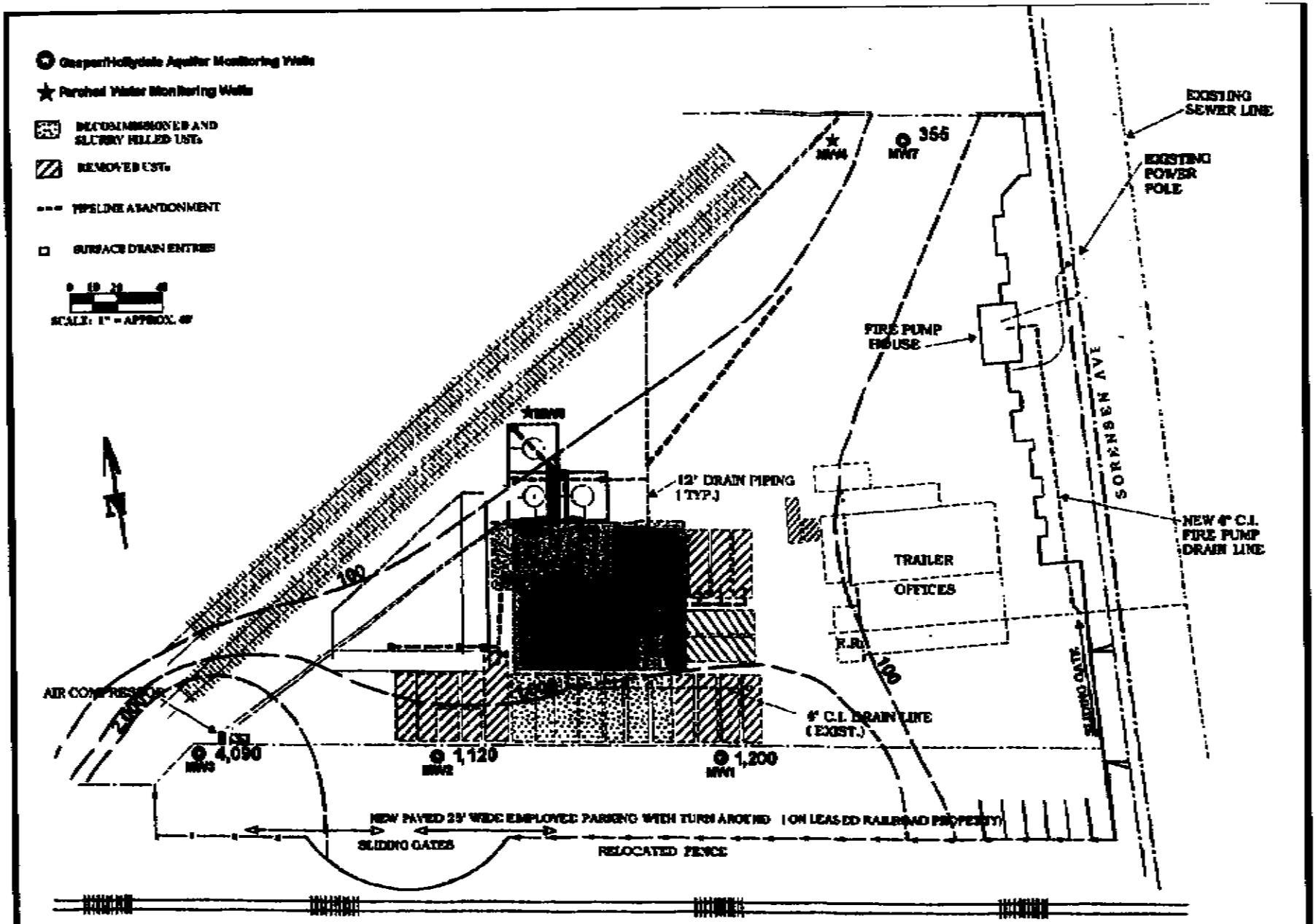
Maisely Environmental Investigations, Inc. 9605 Arrow Route, Suite "I" Rancho Cucamonga, CA 91730	Estimated Dissolved TCE Plume in Gasper/Hollydale Aquifer (ug/L) Angeles Chemical Company 8915 Sorensen Avenue Santa Fe Springs, CA	Figure 7

ANCHEM1187



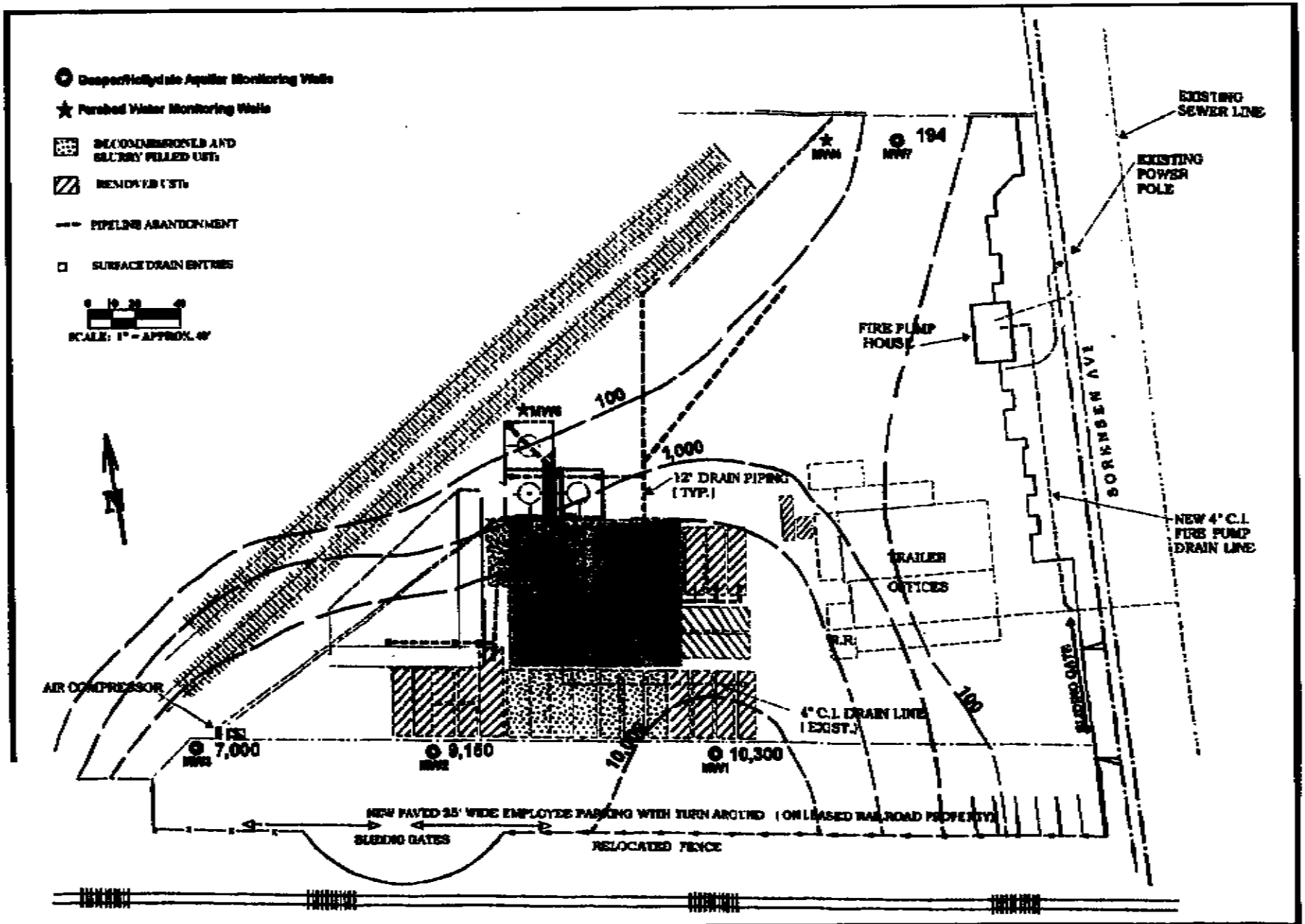
Blaney Environmental Investigations, Inc. 9605 Arrow Route, Suite "I" Rancho Cucamonga, CA 91730	Estimated dissolved 1,1 DCA Plume in Gasper/Hollydale Aquifer (µg/L) Former Angeles Chemical Company Property 8915 Sorensen Avenue Santa Fe Springs, CA	Figure 8

ANCHEM1188



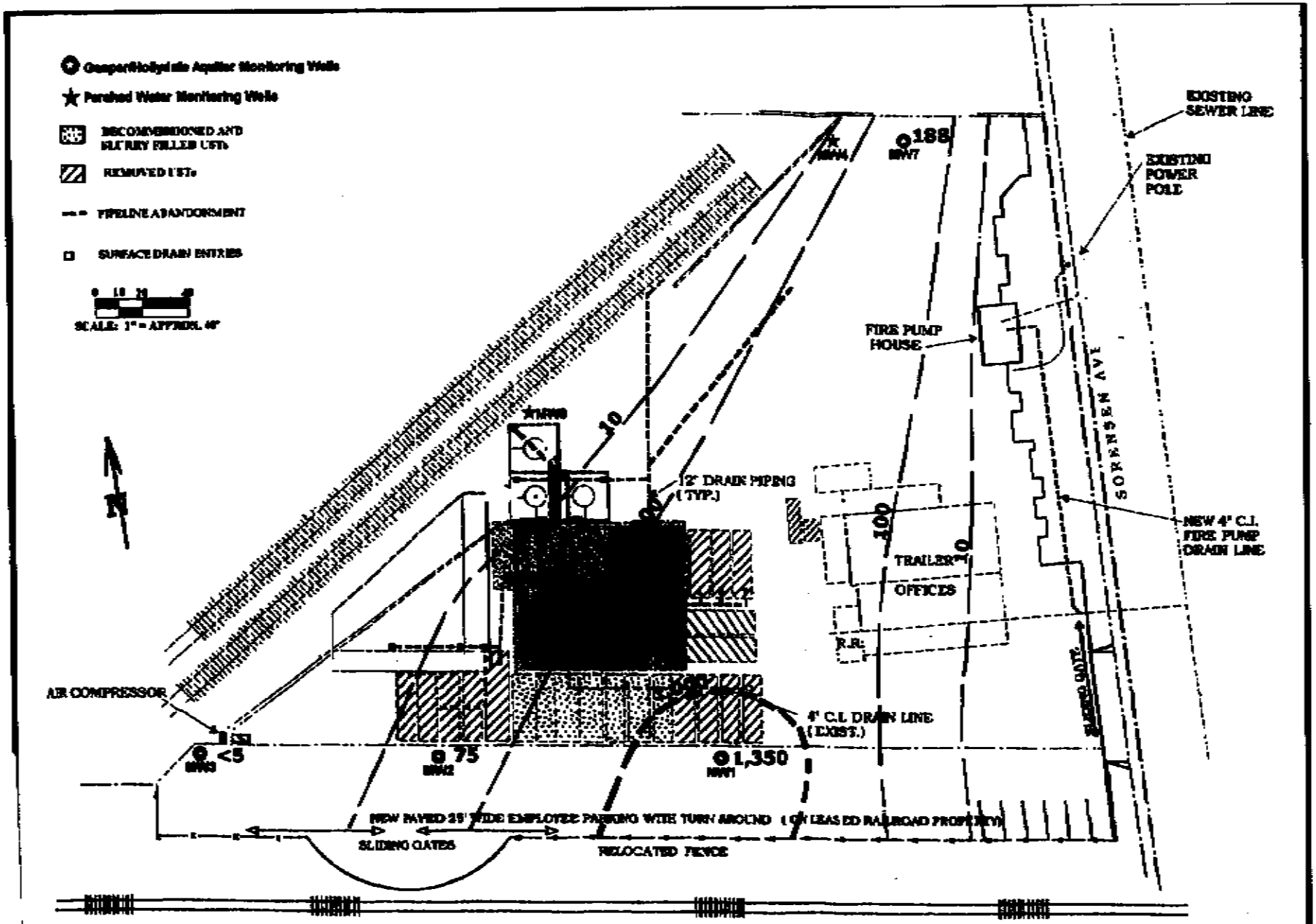
Blakely Environmental Investigations, Inc. 9605 Arrow Route, Suite "I" Rancho Cucamonga, CA 91730	Estimated Dissolved 1,1 DCE Plume in Gasper/Hollydale Aquifer (ug/L) Former Angeles Chemical Company Property 9018 Berenson Avenue Santa Fe Springs, CA	**Figure 9**

ANCHEM1189



Blaisdell Environmental Investigations, Inc. 9685 Arrow Route, Suite "I" Rancho Cucamonga, CA 91730	Estimated Dissolved cis-1,2 DCE Plume in Gaspar/Hollydale Aquifer (µg/L) Former Angelus Chemical Company Property 9615 Sorensen Avenue Santa Fe Springs, CA	Figure 10

ANCHEM1190



Blaney Environmental Investigations, Inc. 9605 Arrow Route, Suite "I" Rancho Cucamonga, CA 91730	Estimated Dissolved VC Plume in Gaspar/Hollydale Aquifer (µg/L) Angeles Chemical Company 8915 Sorensen Avenue Santa Fe Springs, CA	Figure 11

ANCHEM1191

Simplified Cross-Section Showing 1,1,1 TCA In Soil (ppb)

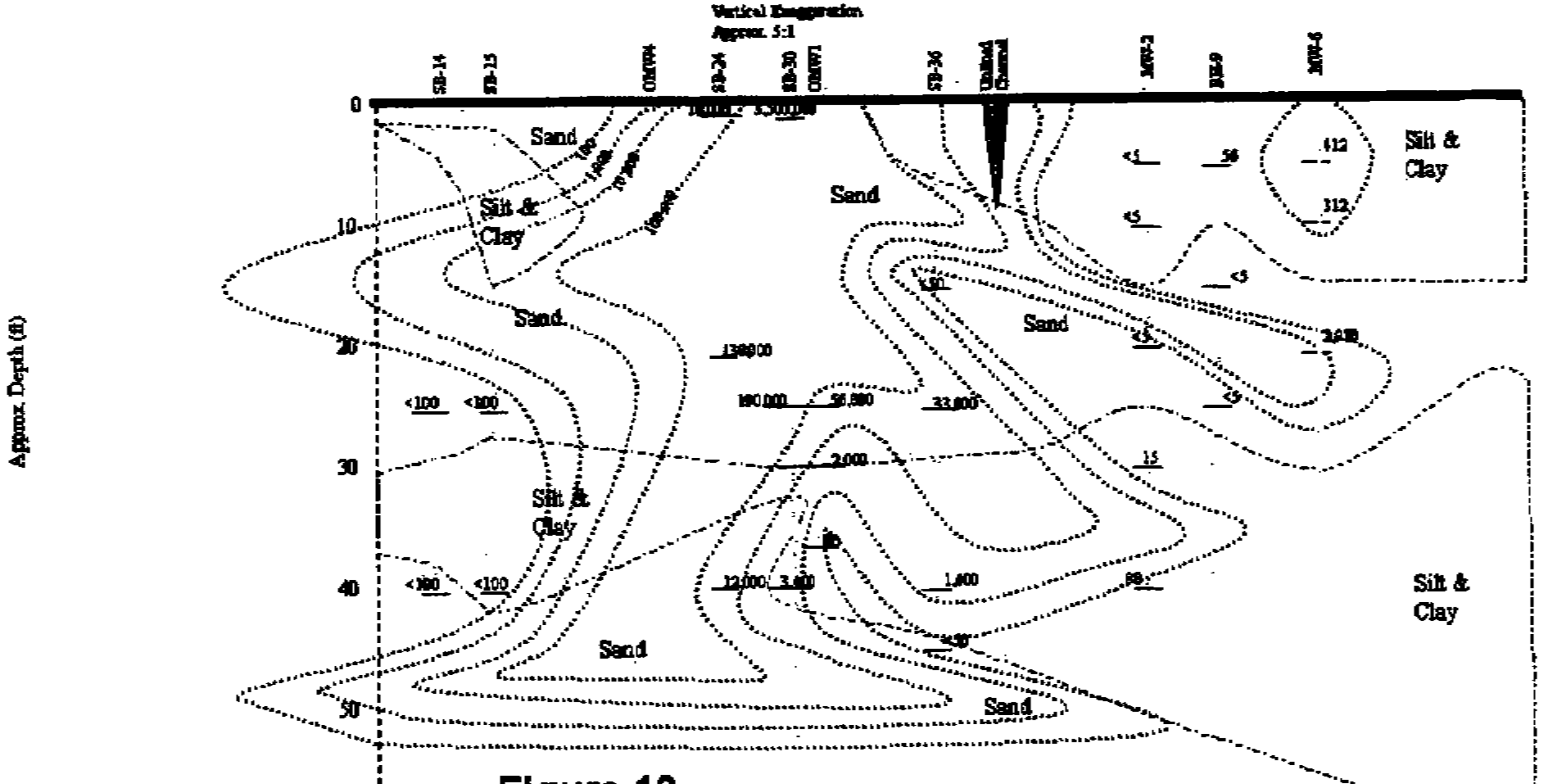


Figure 12

TABLES

Table 1: Detected VOCs from Groundwater Sample Results using EPA Method 8260 (ug/L)							
VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7
Acetone	Oct-01	<25	<25	<25	NS-NW	<25,000	1,190
Benzene	Feb-94	194	<100	63	111	795	46
	Nov-00	<2,500	61	73	NS-FP	NS-FP	65
	Oct-01	125	105	110	NS-NW	110,000	55
2-Butanone (MEK)	Feb-94	NA	NA	NA	NA	NA	NA
	Nov-00	3,100	<10,000	<10,000	NS-FP	NS-FP	1,400
	Oct-01	<25	<25	500	NS-NW	<25,000	980
n-Butylbenzene	Oct-01	<5	<5	<5	NS-NW	1,400,000	<5
1,1-Dichloroethane	Feb-94	649	1,130	85	1410	2,260	2,130
	Nov-00	17,000	1,800	800	NS-FP	NS-FP	2,800
	Oct-01	8,190	1,500	1,030	NS-NW	592,000	2,670
1,2-Dichloroethane	Feb-94	<100	<100	<50	<100	1140	31
	Nov-00	<2,500	<500	<500	NS-FP	NS-FP	<500
	Oct-01	<5	<5	<5	NS-NW	<5,000	<5
1,1-Dichloroethene	Feb-94	2,210	2,460	2,800	806	1,240	151
	Nov-00	3,000	<500	2,900	NS-FP	NS-FP	350
	Oct-01	1,200	1,120	4,090	NS-NW	417,000	355
cis 1,2-Dichloroethene	Feb-94	NA	NA	NA	NA	NA	NA
	Nov-00	20,000	9,500	5,700	NS-FP	NS-FP	210
	Oct-01	10,300	9,150	7,000	NS-NW	1,060,000	194
trans 1,2-Dichloroethene	Feb-94	NA	NA	NA	NA	NA	NA
	Nov-00	<2,500	<500	<500	NS-FP	NS-FP	<500
	Oct-01	<5	<5	<5	NS-NW	<5,000	<5
Ethylbenzene	Feb-94	333	1,720	115	1,180	1,910	45
	Nov-00	960	120	1,000	NS-FP	NS-FP	82
	Oct-01	805	197	1,550	NS-NW	4,320,000	107
Isopropylbenzene	Oct-01	<5	<5	<5	NS-NW	636,000	<5
Methylene Chloride	Feb-94	1,220	2,960	6,530	4,760	21,400	<50
	Nov-00	1,100	180	5,600	NS-FP	NS-FP	180
	Oct-01	<5	<5	<5	NS-NW	<5,000	<5
4-Methyl-2-pentanone	Oct-01	<25	<25	4,130	NS-NW	<25,000	625
Naphthalene	Oct-01	185	76	<5	NS-NW	1,680,000	85
n-Propylbenzene	Oct-01	<5	<5	<5	NS-NW	1,870,000	<5
Tetrachloroethene	Feb-94	662	2,150	5,370	3,320	2,130	134
	Nov-00	<2,500	<500	130	NS-FP	NS-FP	<500
	Oct-01	<2	<2	130	NS-NW	531,000	100

Table 1: Detected VOCs from Groundwater Sample Results using EPA Method 8260 (ug/L)

VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7
1,1,1-Trichloroethane	Feb-94	9,370	3,470	444	36,200	114,000	90
	Nov-00	<2,500	<500	70	NS-FP	NS-FP	<500
	Oct-01	<5	<5	<5	NS-NW	28,100,000	<5
Trichloroethene	Feb-94	7,160	3,040	1,730	14,300	1,320	45
	Nov-00	<2,500	<500	1,500	NS-FP	NS-FP	<500
	Oct-01	<2	<2	100	NS-NW	763,000	<2
1,2,4-Trimethylbenzene	Oct-01	1,590	18.9	345	NS-NW	22,100,000	200
1,3,5-Trimethylbenzene	Oct-01	470	62.9	145	NS-NW	5,400,000	25
Toluene	Feb-94	560	7,390	579	12,700	15,300	398
	Nov-00	4,000	57	3,700	NS-FP	NS-FP	600
	Oct-01	2,470	26	5,150	NS-NW	9,010,000	975
Vinyl Chloride	Oct-01	1,350	75	<5	NS-NW	<5,000	188
Xylenes	Feb-94	2,182	7,790	1,014	4,362	4,710	186
	Nov-00	3,400	<500	2,500	NS-FP	NS-FP	247
	Oct-01	2,770	<2	3,720	NS-NW	10,370,000	301
DTW	Feb-94	30.05'	28.80'	29.70'	23.36'	24.85'	24.53'
	Nov-00	36.62'	36.26'	36.42'	26.20'	28.52'	28.19'
	Oct-01	37.41'	37.91'	39.19'	26.35'	NA	28.70'
	Nov-01	NA	NA	NA	26.36'	28.85'	NA
Screened Interval		30'-50' bg	30'-50' bg	29'-49' bg	17'-27' bg	20'-30' bg	35'-55' bg

DTW= Depth to Water.
NA= Not Analyzed.
NS-FP= Not Sampled Free Product present.
NS-NW= Not Sampled Not Enough Water present.
Blue= Chemicals stored on-site.
Red= Transformation compounds from chemicals stored on-site.

Table 2: Dissolved Metal Sample Results (mg/L)

Dissolved Metals	EPA Method	Date	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7
Antimony	7040	Oct-01	<0.5	<0.5	<0.5	NS-FP	NS-FP	<0.5
Arsenic	7060	Oct-01	0.026	0.061	<0.005	NS-FP	NS-FP	0.071
Barium	7080	Oct-01	<0.5	<0.5	<0.5	NS-FP	NS-FP	<0.5
Beryllium	7090	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05
Cadmium	7130	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05
Chromium	7190	Oct-01	<0.1	<0.1	<0.1	NS-FP	NS-FP	<0.1
Cobalt	7200	Oct-01	<0.1	0.12	<0.1	NS-FP	NS-FP	<0.1
Copper	7210	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05
Lead	7240	Oct-01	<0.1	<0.1	<0.1	NS-FP	NS-FP	<0.1
Mercury	7471	Oct-01	<0.001	<0.001	<0.001	NS-FP	NS-FP	<0.001
Molybdenum	7480	Oct-01	<0.04	<0.04	<0.04	NS-FP	NS-FP	<0.04
Nickel	7520	Oct-01	<0.1	<0.1	<0.1	NS-FP	NS-FP	<0.1
Selenium	7740	Oct-01	<0.005	<0.005	<0.005	NS-FP	NS-FP	<0.005
Silver	7760	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05
Thallium	7840	Oct-01	<0.2	<0.2	<0.2	NS-FP	NS-FP	<0.2
Vanadium	7910	Oct-01	<0.5	<0.5	<0.5	NS-FP	NS-FP	<0.5
Zinc	7950	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05

NS-FP= Not Sampled Free Product present.

ANCHEM1196

APPENDICES

ANCHEM1197

WELL GAUGING DATA

Project # 011030-P1 Date 10/30/01 Client Blaine Env.

Site Angeles Chem.

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-3	4	odor				39.19	52.00	TOC	
MW-1	4	Toluene odor				37.41	62.80	"	
MW-2	4					37.91	52.27	"	
MW-4	4					26.35	26.65		
MW-6	4	SPH							
MW-7	2					29.70	51.85		

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

ANCHEM1199

GROUNDWATER MONITORING DATA SHEET

Project #: 011030-P1	Client: Berkeley Env. - Argabright
Sampler: TD	Start Date: 10/30/01
Well I.D.: mw-1	Well Diameter: 2 3 4 6 8
Total Well Depth: 62.70	Depth to Water: 37.41
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:
- Bailer
- Disposable Bailer
- ~~Middleburn~~
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other

Sampling Method: Bailer
- ~~Disposable Bailer~~
- Extraction Port
- Dedicated Tubing
- Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

16.4 (Gals.) X 3 = 49.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
12:50	71.3	6.80	2031	38	16	Odor
13:05	71.0	6.82	1954	18	32	"
13:17	71.4	6.89	1879	10	49	"

Did well dewater? Yes (No) Gallons actually evacuated: 49

Sampling Time: client hand deliver on site Sampling Date: 10/30/01

Sample I.D.: mw-1 Laboratory: Samples to client

Analyzed for: TPH-G BTEX MTBE TPH-D (Other) client hand deliver

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 011030 191	Client: Blakely Env. Angeles Clean
Sampler: PB / JT	Start Date: 10/28/01
Well I.D.: mw-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 62.27	Depth to Water: 37.91
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- Bailer
- Disposable Bailer
- (Middleburg)
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other_____

Sampling Method: Bailer

- (Disposable Bailer)
- Extraction Port
- Dedicated Tubing
- Other: _____

9.5 (Gals.) X 3 = 27.9 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
12:05	70.2	7.07	1807	97	10	
12:18	71.6	7.41	1793	165	17	
	well dewatered @ 17 gal					

Did well dewater? (Yes) No Gallons actually evacuated: 17

Sampling Time: client has data on csc Sampling Date: 10/30/01

Sample I.D.: mw-2 Laboratory: Sunbelt Signature to check

Analyzed for: TPH-G BTEX MTBE TPH-D (Other:) Client has data

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 011030-21	Client: Varley
Sampler: BB	Start Date: 10/28/01
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 52.00	Depth to Water: 35.19
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:
- Bailer
- Disposable Bailer
- ~~Middleburg~~
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other_____

Sampling Method:
- Bailer
- ~~Disposable Bailer~~
- Extraction Port
- Dedicated Tubing
- Other: _____

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

9.5 (Gals.) X 3 = 24.5 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
11:15	71.7	7.25	1861	35	8	Odor
1131	71.3	7.15	1878	19	16	"
	well dewatered @ 17 gal					

Did well dewater? Yes No Gallons actually evacuated: 17

Sampling Time: Client has chain on COC Sampling Date: 10/28/01

Sample I.D.: MW-3 Laboratory: Samples signed over to client

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Client has chain

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 011030-P1	Client: Blakely Env. Hydrologic Cleanup
Sampler: BS / JT	Start Date: 10/28/01
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 51.85	Depth to Water: 28.70
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:
- Bailer
- Disposable Bailer
- ~~Middleburg~~
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other_____

Sampling Method: Bailer
- ~~Disposable Bailer~~
- Extraction Port
- Dedicated Tubing
- Other: _____

3.7 (Gals.) X 5 = 11.1 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	~~0.16~~	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
10:22	71.5	6.93	2637	7200	3.7 (FTU 41.40)	ODOR/Blue
10:25	72.1	6.77	2732	175	7.4	"
10:34	71.7	7.00	2633	91	11.1	"
10:37	72.0	7.04	2635	7200	13	

Did well dewater? (Yes) (No) Gallons actually evacuated: 13

Sampling Time: Client has down on COC Sampling Date: 10-30-01

Sample I.D.: MW-7 (Laboratory: Stanlab Signed chg to Client

Analyzed for: TPH-G BTEX MTBE TPH-D (Other: ~~Stanlab~~ Client has down on COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

ANCHEM1203

WELL MONITORING DATA SHEET

Project #: 01 1030 - 01	Client: Blaine Tech
Sampler: JB	Start Date: 10/28/01
Well I.D.: MW-6	Well Diameter: 2 3 (4) 6 8
Total Well Depth:	Depth to Water:
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:
- Bailer
- Disposable Bailer
- Middleburg
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other

Sampling Method: Bailer
- ~~Disposable Bailer~~
- Extraction Port
- Dedicated Tubing
- Other:

___ (Gals.) X ___ = ___ Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
		NO Purge - Grab SPH From well				
			Sample			

Did well dewater? ~~Yes~~ No — Gallons actually evacuated: Grab Sample

Sampling Time: Client has data in coc — Sampling Date: 11/8/01

Sample I.D.: MW-6 — Laboratory: Samples Signed over to client

Analyzed for: TPH-G BTEX MTBE TPH-D (Other) client has data

Equipment Blank I.D.: @ Time — Duplicate I.D.: --

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL GAUGING DATA

Project # 011115-60-1 Date 11/15/01 Client Blakely ENV. Invest.

Site 8915 SORENSEN AVE - Santa Fe Springs

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-4	4	Odor	26.29	0.07		26.36		TOC	
MW-6	4	Odor	28.30	0.55		28.85		TOC	

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1509

11-07-2001

Mr. Hiram Garcia
Blakely Environmental Investigations, Inc.
9605 Arrow Highway, Suite T
Rancho Cucamonga, CA 91730

Project: Angeles Chemicals
Project Site: Angeles Chemicals
Sample Date: 10-30-2001
Lab Job No.: GR110126

Dear Mr Garcia:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 10-30-2001 and analyzed by the following EPA methods:

EPA 7000 Series for CAM Metals
EPA 8260B (VOCs by GC/MS)

All analyses have met the QA/QC criteria of this laboratory.

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph. D.
Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.

ANCHEM1207

Southland Technical Services, Inc.
Environmental Laboratories

7801-Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 869-7728
Fax (323) 888-1909

11-07-2001

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemicals
Project Site: Angeles Chemicals
Matrix: Water
Batch No.: 1031-M1

Lab Job No.: GR110126

Date Sampled: 10-30-2001
Date Received: 10-30-2001
Date Analyzed: 10-31-2001

CAM Metals (Dissolved)
Reporting Units: mg/L (ppm)

Element	EPA Method	Method Blank	MW-1	MW-2	MW-3	MW-7	Reporting Limit
			GR10126-1	GR10126-2	GR10126-3	GR10126-4	
Antimony (Sb)	7040	ND	ND	ND	ND	ND	0.5
Arsenic (As)	7060	ND	0.026	0.061	ND	0.071	0.005
Barium (Ba)	7080	ND	ND	ND	ND	ND	0.5
Beryllium (Be)	7090	ND	ND	ND	ND	ND	0.05
Cadmium (Cd)	7130	ND	ND	ND	ND	ND	0.05
Chromium (Cr)	7190	ND	ND	ND	ND	ND	0.1
Cobalt (Co)	7200	ND	ND	0.12	ND	ND	0.1
Copper (Cu)	7210	ND	ND	ND	ND	ND	0.05
Lead (Pb)	7240	ND	ND	ND	ND	ND	0.1
Mercury (Hg)	7471	ND	ND	ND	ND	ND	0.001
Molybdenum (Mo)	7480	ND	ND	ND	ND	ND	0.4
Nickel (Ni)	7520	ND	ND	ND	ND	ND	0.1
Selenium (Se)	7740	ND	ND	ND	ND	ND	0.005
Silver (Ag)	7760	ND	ND	ND	ND	ND	0.05
Thallium (Tl)	7840	ND	ND	ND	ND	ND	0.2
Vanadium (V)	7910	ND	ND	ND	ND	ND	0.5
Zinc (Zn)	7950	ND	ND	ND	ND	ND	0.05

ND: Not Detected (at the specified limit).

ANCHEM1208

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello CA 90640

Phone (323) 888-0728
Fax (323) 888-1505

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemicals

Lab Job No.: GR110126
Matrix: Water

Date Reported: 11-07-01
Date Sampled: 10-30-01

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ug/L (ppb)

DATE ANALYZED		10-30	10-31-01	10-30-01	10-31-01	10-30-01	10-30-01
PREPARATION METHOD		5030	5030	5030	5030	5030	5030
DILUTION FACTOR		1	50	10	25	5	1
LAB SAMPLE I.D.			GR10126-1	GR10126-2	GR10126-3	GR10126-4	GR10126-6
CLIENT SAMPLE I.D.			MW-1	MW-2	MW-3	MW-7	Trip
COMPOUND	MDL	MB					
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND
Vinyl Chloride	5	ND	1,350	75	ND	186	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	1,200	1,120	4,090	355	ND
Iodomethane	5	ND	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	8,190	1,500	1,930	2,670	ND
2,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	10,300	9,150	7,000	194	ND
Bromochloromethane	5	ND	ND	ND	ND	ND	ND
Chloroform	5	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	5	ND	ND	ND	ND	ND	ND
Benzene	2	ND	125	105	110	55.0	ND
Trichloroethene	2	ND	ND	ND	100	ND	ND
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND
Bromodichloromethane	5	ND	ND	ND	ND	ND	ND
Dibromomethane	5	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	5	ND	ND	ND	ND	ND	ND
Dibromochloromethane	5	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	5	ND	ND	ND	ND	ND	ND
Bromoform	5	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND
Bromobenzene	5	ND	ND	ND	ND	ND	ND

ANCHEM1209

(STS)

Southland Technical Services, Inc.

Environmental Laboratories

7901 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1909

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemicals

Lab Job No.: GR110126
Matrix: Water

Date Reported: 11-07-01
Date Sampled: 10-30-01

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: µg/L (ppb)

COMPOUND	MDL	MB	MW-1	MW-2	MW-3	MW-7	Trip
Toluene	2	ND	2,470	26	5,150	975	ND
Tetrachloroethene	2	ND	ND	ND	130	10	ND
1,2-Dibromoethane(EDB)	5	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethan	5	ND	ND	ND	ND	ND	ND
Ethylbenzene	2	ND	805	197	1,550	107	ND
M&P-Xylenes	2	ND	1,900	ND	2,800	227	ND
O-Xylene	2	ND	870	ND	920	74.0	ND
Styrene	5	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethan	5	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	5	ND	ND	ND	ND	ND	ND
n-Propylbenzene	5	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	5	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	5	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	5	ND	470	62.9	145	25	ND
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	5	ND	1,590	18.9	345	200	ND
Sec-Butylbenzene	5	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	5	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND
n-Butylbenzene	5	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	5	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	5	ND	ND	ND	ND	ND	ND
Naphthalene	5	ND	185	76	ND	85	ND
1,2,3-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND
Acetone	25	ND	ND	ND	ND	1,190	ND
2-Butanone (MEK)	25	ND	ND	ND	500	980	ND
4-Methyl-2-pentanone	25	ND	ND	ND	4,130	625	ND
2-Hexanone	25	ND	ND	ND	ND	ND	ND
MTBE	2	ND	ND	ND	ND	ND	ND
			x50	x20	x25	x5	x1

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF × MDL).

ANCHEM1210

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1909

Client: Blakely Environmental Investigations, Inc. Lab Job No.: GR110126 Date Reported: 11-07-01
Project: Angeles Chemicals Matrix: Product Date Sampled: 10-30-01

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: mg/L (ppm)

DATE ANALYZED		10-30-01	10-30-01			
PREPARATION METHOD		5030	5030			
DILUTION FACTOR		1	50			
LAB SAMPLE I.D.			GR10126-5			
CLIENT SAMPLE I.D.			MW-6			
COMPOUND	MDL	MB				
Dichlorodifluoromethane	5	ND	ND			
Chloromethane	5	ND	ND			
Vinyl Chloride	5	ND	ND			
Bromomethane	5	ND	ND			
Chloroethane	5	ND	ND			
Trichlorofluoromethane	5	ND	ND			
1,1-Dichloroethene	5	ND	417			
Iodomethane	5	ND	ND			
Methylene Chloride	5	ND	ND			
trans-1,2-Dichloroethene	5	ND	ND			
1,1-Dichloroethane	5	ND	592			
2,2-Dichloropropane	5	ND	ND			
cis-1,2-Dichloroethene	5	ND	1,060			
Bromochloromethane	5	ND	ND			
Chloroform	5	ND	ND			
1,2-Dichloroethane	5	ND	ND			
1,1,1-Trichloroethane	5	ND	28,100			
Carbon tetrachloride	5	ND	ND			
1,1-Dichloropropene	5	ND	ND			
Benzene	2	ND	110			
Trichloroethene	2	ND	753			
1,2-Dichloropropane	5	ND	ND			
Bromodichloromethane	5	ND	ND			
Dibromomethane	5	ND	ND			
trans-1,3-Dichloropropene	5	ND	ND			
cis-1,3-Dichloropropene	5	ND	ND			
1,1,2-Trichloroethane	5	ND	ND			
1,3-Dichloropropane	5	ND	ND			
Dibromochloromethane	5	ND	ND			
2-Chloroethylvinyl ether	5	ND	ND			
Bromoform	5	ND	ND			
Isopropylbenzene	5	ND	636			
Bromobenzene	5	ND	ND			

ANCHEM1211

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1509

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemicals

Lab Job No.: GR110126
Matrix: : Product

Date Reported: 11-07-01
Date Sampled: 10-30-01

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: mg/L (ppm)

COMPOUND	MDL	MB	MW-6			
Toluene	2	ND	9,010			
Tetrachloroethene	2	ND	531			
1,2-Dibromoethane(EDB)	5	ND	ND			
Chlorobenzene	5	ND	ND			
1,1,1,2-Tetrachloroethan	5	ND	ND			
Ethylbenzene	2	ND	4,320			
M&P-Xylenes	2	ND	6,950			
O-Xylene	2	ND	3,720			
Styrene	5	ND	ND			
1,1,2,2-Tetrachloroethan	5	ND	ND			
1,2,3-Trichloropropane	5	ND	ND			
n-Propylbenzene	5	ND	1,870			
2-Chlorotoluene	5	ND	ND			
4-Chlorotoluene	5	ND	ND			
1,3,5-Trimethylbenzene	5	ND	5,400			
tert-Butylbenzene	5	ND	ND			
1,2,4-Trimethylbenzene	5	ND	22,100			
Sec-Butylbenzene	5	ND	ND			
1,3-Dichlorobenzene	5	ND	ND			
p-Isopropyltoluene	5	ND	ND			
1,4-Dichlorobenzene	5	ND	ND			
1,2-Dichlorobenzene	5	ND	ND			
n-Butylbenzene	5	ND	1,400			
1,2,4-Trichlorobenzene	5	ND	ND			
1,2-Dibromo-3-Chloropropane	5	ND	ND			
Hexachlorobutadiene	5	ND	ND			
Naphthalene	5	ND	1,580			
1,2,3-Trichlorobenzene	5	ND	ND			
Acetone	25	ND	ND			
2-Butanone (MEK)	25	ND	ND			
4-Methyl-2-pentanone	25	ND	ND			
2-Hexanone	25	ND	ND			
MTBE	2	ND	ND			

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF * MDL).

ANCHEM1212

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1509

11-07-2001

EPA 8260B
Batch QA/QC Report

Client:	Blakely Environmental Investigations, Inc.	Lab Job No.:	GR110126
Project:	Angeles Chemicals		
Matrix:	Soil	Sample ID:	ST1030-1
Batch No:	1030-VOCA	Date Analyzed:	10-30-2001

I. MS/MSD Report
Unit: ppb

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1-Dichloroethene	ND	20	19.3	17.4	96.5	87.0	10.4	30	70-130
Benzene	ND	20	19.5	19.9	97.5	99.5	2.0	30	70-130
Trichloro-ethene	ND	20	20.6	20.4	103.0	102.0	1.0	30	70-130
Toluene	ND	20	20.9	20.8	104.5	104.0	0.5	30	70-130
Chlorobenzene	ND	20	21 3	20.6	106.5	103.0	3.3	30	70-130

II. LCS Result
Unit: ppb

Compound	LCS Report Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	43.9	50	87.8	80-120
Benzene	49.2	50	98.4	80-120
Trichloro-ethene	51.1	50	102.2	80-120
Toluene	51.4	50	102.8	80-120
Chlorobenzene	51.5	50	103.0	80-120

ND: Not Detected (at the specified limit)

ANCHEM1213

SOUTHLAND TECHNICAL SERVICES, INC.

CHAIN OF CUSTODY RECORD

Page 1 of 1

Lab Job Number GR110126.

Client: BEII

Address: 4521 W. First St, Santa Ana, CA 92703

Report Attention: | Phone: (714) 775-6749 | Fax: | Sampled by: Blaine

Project Name/No.: | Project Site: Angeles Chemical Company

T.A.T. Requested: ☐ Rush 6 12 24 hours ☐ 2-3 days ☒ Normal

Sample Condition: ☐ Chilled ☐ Intact ☐ Sample seals

Client Sample ID	Lab Sample ID	Sample Collect: Date	Sample Collect: Time	Matrix Type	Sample Preserve	No./type* & size of container	602/8021 (BTEX,MTBE)	8015M (Gasoline)	8015M (Diesel)	8260B (VOCs)	8260B (Oxygenates)	8260B (MTBE Confirm.)	Dissolved Metals	Remarks
MW-1	GR10126-1	10/30/01		Water	HCl	2-40ml			X	X				Note: Client
MW-1		"		"	None	1-500ml							X	Confirmed
MW-2	-2	"		"	HCl	2-40ml			X	X				on 10-31-01
MW-2		"		"	None	1-500ml							X	that 8015m(D)
MW-3	-3	"		"	HCl	2-40ml			X	X				is not needed.
MW-3		"		"	None	1-500ml							X	
MW-4	-4	"		"	HCl	2-40ml			X	X				
MW-7		"		"	None	1-500ml							X	
MW-6	-5	"		Product	HCl	1-40ml			X	X				
Trip Blank	-6	"		Water	HCl	1-40ml			X	X				

Relinquished by: [signature] Company: Date: 10/31/01 Time: Received by: [signature] Company: STS

Relinquished by: Company: Date: Time: Received by: Company:

Container types: A=Air Bag G=Glass bottle M=Metal Tube P=Plastic bottle V=VOA vial

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense. Distribution: WHITE with report, PINK to courier.

Southland Tech. Services, Inc
7801 Telegraph Road, Suite L & K
Montebello, CA 90640
Tel: (323) 888-0728
Fax: (323) 888-1509

ecology and environment, inc.
180 SPEAR STREET, SAN FRANCISCO, CALIFORNIA 94105, TEL. 415/777-2811
International Specialists in the Environment

SCREENING SITE INSPECTION REASSESSMENT

SUBMITTED TO: Paul LaCourreye, Site Assessment Manager
EPA Region IX

PREPARED BY: Helena Brykarz, Ecology and Environment, Inc.

THROUGH: Karen Ladd, Ecology and Environment, Inc.

DATE: June 15, 1990

SITE: Foremost-McKesson, Inc.
McKesson Chemical Company
9005 Sorensen Avenue
Santa Fe Springs, CA 90670

TDD#: F9-9002-014

EPA ID#: CAD060395753

PROGRAM ACCOUNT#: FCA0243SAA

FIT REVIEW/CONCURRENCE: Karen Ladd 6/18/90

cc: FIT Master File
Don Plain, California Department of Health Services

INTRODUCTION

The U.S. Environmental Protection Agency, Region IX, has tasked Ecology and Environment, Inc.'s Field Investigation Team (FIT) to reassess all sites with completed Screening Site Inspections (SSI) in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database that are still being considered for further action. The strategy for determining whether these SSIs actually merit further action is based primarily on each site's potential to achieve a score high enough on the proposed revised Hazard Ranking System (rHRS) for inclusion on the National Priorities List (NPL). This strategy is intended to identify those sites posing the highest relative risk to human health or the environment. All other sites needing remedial or enforcement follow-up will be referred to the states or an appropriate federal authority. Actions and involvement by authorities other than the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) will also be considered.

SUMMARY

The Foremost-McKesson, Inc., site is located at 9005 Sorensen Avenue in Santa Fe Springs, Los Angeles County, California. It occupies 3 acres of land in an industrialized area, south of the Southern Pacific railroad tracks (1).

Foremost-McKesson operated a chemical reformulation and distribution facility at the site from 1976 to 1986. Virgin chemicals were stored in 20 underground tanks and an aboveground tank farm. Two waste streams were generated at the facility. Corrosive wastes from drum rinsing operations were pumped, at a rate of 1,500 gallons per day, to an on-site neutralization pit, and later discharged to the Los Angeles County sanitary sewer. The 55-gallon drums were then sent to a drum recycler. Isopropyl alcohol was used to flush the solvent lines. The wastes were stored in drums in a designated hazardous waste storage area on site and later disposed of off site (1).

Foremost-McKesson has not operated at the site since 1986. The California Department of Health Services (DOHS) is currently overseeing the closure of the facility. The tanks, underground and aboveground have been emptied, and the contents were disposed of off site. The drums have been transported off site (2).

Several apparent problems can be identified at the site. A 10,000-gallon spill of sulfuric acid occurred in 1979 in the tank farm area as the result of a faulty tank valve. Additional chemical spills occurred in the tank farm area in 1977, 1978, and 1980. However, the specific chemicals involved are not known to FIT. Although the tank farm area is bermed, it sits on gravel rather than pavement. Results of 1984 DOHS soil sampling efforts indicated that surface soils in the tank farm area were contaminated with up to 33 parts per million (ppm) tetrachloroethene. In 1985, DOHS soil sampling in the same area detected 100 milligrams per kilogram (mg/kg) of acetone. Also, trichloroethane, methyl ethyl ketone, p-dioxane, tetrachloroethane, and xylene were detected in soil samples, however the concentrations are unknown to FIT (1). The results of a 1989 DOHS sampling effort indicate that trichloroethane at 0.11 mg/kg and tetrachloroethene at 0.5 mg/kg are still present in surface soils (2,4). In 1980, the Los Angeles County Engineers issued a violation to Foremost-McKesson for an observed discharge of industrial waste to an unlined ditch behind the property. The ditch receives surface water runoff from the site via a 2-foot by 2-foot by 4-foot concrete catch basin (1).

The site is located in the Montebello Forebay area of the Central Basin, which is located in the Coastal Plain of Los Angeles County. The area is underlain in order of increasing depth by the Artesia, Gardena, Lynwood, Silverado and Sunnyside aquifers. According to a California Department of Water Resources report, these aquifers consists of mostly clay and gravel and are interconnected within 2 miles of the site (3).

The Bellflower aquitard, which exists just below ground surface, is approximately 30 to 40 feet thick and pinches out within 2 miles northwest of the site. It consists of clay and sandy clay. However,

percolation throughout the Bellflower aquitard is high, rendering it ineffective as a barrier to flow (5).

The nearest drinking water well is located 0.33 miles north of the site (1). It is perforated at 200 to 288 feet and 300 to 900 feet in the Silverado and Sunnyside aquifers (6). The well is part of an interconnected system of wells in the Santa Fe main system which serves a predominantly commercial area. During the day, approximatly 100,000 workers and residents use the drinking water, and at night approximately 10,000 residents use the water (7). A City of Norwalk well is approximately 2.5 miles south of the site, which serves 2,200 people (8). Southern California Water Company has a well approximately 2 miles south of the site, which serves a population of 7,000 (9). Both of these wells tap the Silverado and Sunnyside aquifers. The total population served by wells within 4 miles of the site is approximately 109,200.

Groundwater flow is toward the southeast (1). The annual net precipitation is 3.15 inches (10,11).

In 1989, TCE was detected at 2.8 milligrams per liter (mg/l), in the nearest Santa Fe Springs municipal well, 0.33 miles hydraulically upgradient of the site, by the Sante Fe Springs Department of Public Works. Well testing three months later detected no contamination present (12).

The potential for release to groundwater is high, given inadequate containment of hazardous substances, a depth to groundwater of 57 feet bgs, and the moderate permeability of geologic materials in the area. Some of the hazardous substances on site that are, or were, available for release to groundwater, and are highly toxic and mobile in groundwater, include methyl ethyl ketone, p-dioxane, acetone, trichloroethane, and toluene.

Storm runoff from the site flows to a concrete catch basin (2-foot by 2-foot by 4-foot), which has a locking gate valve to control release to an unlined ditch which parallels the northern border of the property. This unnamed ditch drains into the Sorensen Avenue Drain approximately 0.5 miles from the site, and in 2.5 miles it joins La Canada Verde Creek. After approximately 5 miles downstream, it merges with Coyote Creek. In another 6 miles downstream, Coyote Creek empties into the San Gabriel River (13,14). The 2-year, 24-hour rainfall in this area is 3 inches (15).

A potential exists for a release to surface water based on inadequate containment and the proximity of the site to surface water. Hazardous substances available for a release to surface water include acetone and trichloroethane, which are highly toxic and are persistant in rivers (2).

The facility claimed that it applied for an National Pollutant Discharge Elimination System (NPDES) permit, however according to the NPDES database, it never received a permit (1,16).

Although a potential for a release to surface water exists, there are no drinking water uses along the surface water pathway within 15 miles

DEPARTMENT OF HEALTH SERVICES
[illegible] BROADWAY, ROOM 1128
LOS ANGELES CA 90017
(213) 620-2380

October 5, 1984

Douglas L. Eisner
McKesson Chemical Company
One Post Street
San Francisco, CA 94104

Dear Mr. Eisner:

EPA# CAD 060395753

On October 3, 1984, Megan Robinson, DOHS representative, met with Dwight Landry and yourself to discuss cleanup plans of the contaminated soil at the Santa Fe Springs Facility. Although there is no definitive cleanup standard for unlawfully disposed hazardous waste, the Department's general standard is that all such waste must be removed and lawfully redisposed. As an interim measure, you are to remove surface and near-surface contamination to the levels detailed in the California Assessment Manual (CAM) for those components for which CAM standards are listed.

To determine the full nature and extent of contamination, you are to submit a site characterization and cleanup plan to this office by October 26, 1984. Such plan will outline McKesson's proposal with regard to complete identification of surface and subsurface contamination. The plan must propose methods of identification of groundwater contamination associated with the unlawful disposal.. Additionally, include any background information regarding all spill incidents and material stored in the now removed storage tank.

For assistence with the site characterization and clean-up, contact Nestor Acedera at this office.

Your compliance with the requirement for a site characterization and clean-up plan in no way releases you from applicable penalities.

If you have any questions, please do not hesitate to call.

Sincerely,

Jim Smith, Manager
Complaints & Investigation
Southern California Section
Toxic Substances Control Division

JS:mw

cc: Dwight Landry
McKesson Chemical Company

ANCHEM1219

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION
107 SOUTH BROADWAY, SUITE 4027
LOS ANGELES, CALIFORNIA 90012
(213) 620-4460

March 24, 1981

McKesson Chemical Company
9005 Jurupa Avenue
Santa Fe Springs, CA 90638

Attn: Mr. Don Wettstead, Bulk Plant Manager

Re: Waste Discharge (B VI a-62)

Gentlemen:

Your August 22, 1980, letter to this Board stated that all wastewater accumulated in diked areas at your plant is now neutralized and sewered, and that you therefore found it unnecessary to maintain your NPDES permit. On that basis we allowed your NPDES permit to expire on November 30, 1980.

On January 22, 1981, a routine inspection of your facility by this Board's staff, together with Mr. Don Wettstead, disclosed that washdown wastewaters from the container preparation and filling sheds were being discharged to a drainage ditch.

This discharge is not in accordance with the California Water Code.

Mr. Wettstead agreed to pump the wastewaters from the ditch to the sanitary sewer, to remove soils for disposal at a Class I disposal site, and to take steps to prevent the discharge of wastewater from the property in the future.

You are requested to provide a written report to this Board by April 7, 1981 of the corrective measures your company will take to preclude such waste discharges in the future and the timetable for implementation of those measures.

ANCHEM1220

COUNTY OF LOS ANGELES
DEPARTMENT OF COUNTY ENGINEER
PROJECT PLANNING AND POLLUTION CONTROL DIVISION

INSPECTOR'S REPORT

TO: CARL SJOBERG DATE: AUGUST 28, 1980

FROM: JERRY WONG FILE: I-2130-14

INDUSTRY: MC KESSON CHEMICAL CO.
9005 S. SORENSEN AVE., SANTA FE SPRINGS

REPORT: ON A VIOLATION CORRECTION ON JULY 15, 1980.
THE FOLLOWING VIOLATION WERE CORRECTED:

1. REPAIRED THE KEY SWITCH PUMP AT THE INDUSTRIAL WASTE TREATMENT SUMP.
2. CHEMICAL SPILLS WAS CLEAN-UP AT THE TANK FARM AREA.
3. INDUSTRIAL WASTE DISCHARGES RECORDS ARE KEPT ON FILE FOR INSPECTION.

THE FOLLOWING VIOLATION REMAINS:

1. REMOVED CONTAMINATED SOIL TO A LEGAL POINT OF DISPOSAL
2. KEEPING YARD CATCH BASIN SUMP FREE OF CHEMICAL WASTE.

A FOLLOW UP INSPECTION ON AUGUST 26, 1980, I FOUND THE CONTAMINATED SOIL HAS BEEN REMOVED TO THE BKK DUMP. BUT THE CHEMICAL WASTE REMAINS IN THE YARD CATCH BASIN, AND THE CHEMICAL IS SEEPING OUT TO THE UNLINE DITCH. A NOTICE OF VIOLATION AND ORDER TO COMPLY ISSUED TO MR. DON WETTSTEAD, PLANT MANAGER.

7855OL-15-CE 858-2-70

ANCHEM1221

CITY OF SANTA FE SPRINGS

NOTICE OF VIOLATION
AND
ORDER TO COMPLY

Date AUGUST 27, 1980
File I-2130,-1H

To MC KESSON CHEMICAL CO. - ATTENTION: MR. DON WETTSTEAD
Location 9005 S. SORENSEN AVE., SANTA FE SPRINGS

You are hereby directed to correct the following violations of City of SANTA FE SPRINGS Ordinance No. 562 and/or the conditions and limitations of Industrial Waste Disposal Permit No. 385 by SEE BELOW. 1980.

DISCHARGING INDUSTRIAL WASTE INTO THE UNLINE DITCH IS AN VIOLATION OF THE ABOVE CITY ORDINANCE.

YOU ARE HEREBY DIRECTED TO CEASE AND DESIST THE DISCHARGE, AND CLEAN UP THE UNLINE DITCH AT ONCE.

YOU ARE ALSO DIRECTED TO SUBMIT A WRITTEN REPORT TO THIS OFFICE BY SEPTEMBER 10, 1980, PROVIDING A COMPLETE DETAILS OF THE ACTION TAKEN TO COMPLY WITH THE ABOVE VIOLATION.

SHOULD YOU HAVE ANY QUESTION, PLEASE CALL ME AT 866-7011, EXTENSION 255 BETWEEN THE HOURS 8-9 A.M. WEEKDAYS.

DEPT. OF COUNTY ENGINEER
SANITATION DIVISION
16623 BELLFLOWER BLVD.
BELLFLOWER, CA. 90706

By [signature]
IND. WASTE ENGR. INSPECTOR

ANCHEM1222

COUNTY OF LOS ANGELES
DEPARTMENT OF COUNTY ENGINEER
PROJECT PLANNING AND POLLUTION CONTROL DIVISION

INSPECTOR'S REPORT

TO: Carl Soberg DATE: 4/7/80

FROM: Jerry Wong FILE: I-2130-H

INDUSTRY: McKesson Chemical Company
Jens S. Sorensen Mgr., Santa Fe Springs

REPORT: On a routine inspection on 3/24/80, I noted the following violation.

1. A broken key switch pump for pumping of wastewater to the sewer.
2. Chemical spills in the tank farms are also not cleaned up.
3. No industrial waste discharge record, which required by permit conditions.
4. Acid of pH 1 found in the yard catch basin.

Mr. Brian Beamer, Assistant Manager of the above company was instructed to comply by April 7, 1980.

Re-inspection on April 7, 1980 all the above violation was not corrected, and a notice of violation and order to comply issued to the company. (Notice attached)

ANCHEM1223

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STATE OF CALIFORNIA—RESOURCES AGENCY

EDMUND G. BROWN JR., Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION

107 SOUTH BROADWAY, SUITE 4027
LOS ANGELES, CALIFORNIA 90012
(213) 620-4460

I-2130

RECEIVED
JAN 9 1978
POLLUTION CONTROL UNIT

JAN 06 1978

McKesson Chemical Company
9005 Sorensen Avenue
Santa Fe Springs, California 90670

Attention: Mr. E. W. Boyd, Bulk Plant Manager

Re: Waste Discharge Requirements (CA0057631)(CI 6213)

Gentlemen:

Reference is made to Order No. 75-151 (NPDES Permit No. CA0057631), prescribing requirements for the disposal of wastes from your facility at the above location.

Effluent Limitation A-7 provides that wastes discharged shall not contain visible oil or grease, and shall not cause the appearance of grease, oil or oily slick, or foam in the receiving waters or on channel banks, walls, inverts or other structures.

On December 27, 1977, this Board's staff found that your discharge caused considerable foaming in the unlined ditch tributary to North Fork Coyote Creek, in non-compliance with the above-cited requirement. The foaming was traced to have started from oper plant areas near your filling and container preparation sheds.

The problem was discussed with your Mr. Brian Beamer, who was requested to take immediate corrective and preventive measures to assure that the discharge of wastes fully comply with requirements. It was pointed out to Mr. Beamer that you might consider such measures as constructing rolling berms around the filling and container preparation sheds, and/or installing a water-tight valve in your yard sump, instead of the drop gate valve you have currently in use. The latter has already caused you problems when we found an illegal discharge from it on December 2, 1977, as covered by our letter dated December 13, 1977.

It is requested that you submit a written report to this Board by January 20, 1978, providing complete details of the corrective and preventive measures you will take (or have already taken), to bring the discharge of wastes in full compliance with requirements, and the timetable thereof.

If you have any questions concerning the above, please contact Mr. Miller E. Chambers at the above number.

Very truly yours,

Raymond M. Hertel

RAYMOND M. HERTEL
Executive Officer

cc: State Water Resources Control Board, Legal Division
Attn: Mr. Harry M. Schueller
Los Angeles County Engineer, Project Planning and Pollution Control Division
Los Angeles County Flood Control District

STATE OF CALIFORNIA—RESOURCES AGENCY

EDMUND G. BROWN JR., Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION

SOUTH BROADWAY, SUITE 4027
...S ANGELES, CALIFORNIA 90012
623-4460

DEC 13 1977

McKesson Chemical Company
9005 Sorensen Avenue
Santa Fe Springs, California 90670

DEC 14 11 30 AM '77

RECEIVED
DEC 15 1977
PROJECT PLANNING AND POLLUTION CONTROL DIVISION

ATTENTION: Mr. E. W. Boyd, Bulk Plant Manager

RE: Waste Discharge Requirements (CA0057631) (CI 6213)

Gentlemen:

Reference is made to Order No. 75-151 (NPDES Permit No. CA0057631), prescribing requirements for the disposal of wastes from your facility at the above location.

Effluent Limitation A-1 provides that wastes discharged shall be limited to rainwater runoff during and immediately after rainfall only, as proposed.

On December 2, 1977, this Board's staff found that you had a discharge from your yard sump. Apparently, the discharge resulted from the sump valve not being tightly closed. This discharge is in violation of the above-referenced requirement.

In addition, we also observed that the sump contained a substantial amount of oil.

The problem was discussed with your Mr. E. W. Boyd, who was requested to have the sump cleaned up and the valve tightly closed so that there is no discharge except as authorized by and in compliance with the waste discharge requirements. Mr. Boyd promised to comply with the request.

It is requested that you submit a written report to this Board by December 28, 1977, providing details of the corrective measures you will take (or have already taken), including additional steps necessary to assure that similar incidents are not repeated. Please note that the yard sump must be kept clean at all times so that in event of rain, there shall be no discharge of oil or other pollutants except in compliance with discharge requirements.

If you have any questions concerning the above, please contact Mr. Miller E. Chambers of this Board's staff.

Very truly yours,

Raymond M. Hertel

RAYMOND M. HERTEL
Executive Officer

cc: State Water Resources Control Board, Legal Division
Attention: Harry Schueller
Los Angeles County Engineer, Project Planning & Pollution Control Division

ANCHEM1226